



Tom Swift and His 3-D Telejector

(Book 24 in the Tom Swift Jr series)

Victor Appleton II

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The Tom Swift Jr. series:

- 1 Tom Swift and his Flying Lab (1954)
- 2 Tom Swift and his Jetmarine (1954)
- 3 Tom Swift and his Rocket Ship (1954)
- 4 Tom Swift and his Giant Robot (1954)
- 5 Tom Swift and his Atomic Earth Blaster (1954)
- 6 Tom Swift and his Outpost in Space (1955)
- 7 Tom Swift and his Diving Seacopter (1956)
- 8 Tom Swift in the Caves of Nuclear Fire (1956)
- 9 Tom Swift on the Phantom Satellite (1956)
- 10 Tom Swift and his Ultrasonic Cycloplane (1957)
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 - 13 Tom Swift and his Space Solartron (1958)
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From the front page:

A weird green object has appeared in outer space! The United States Government requests Tom Swift Jr. to investigate this menace to earth's radio communications and threat to national security. But the Orb exerts an electromagnetic power which endangers Tom's spaceship and he is forced to return to earth.

Since it is impossible to land men, Tom designs robot astronauts, equipped with his new three-dimensional TV cameras as "eyes," to probe the Orb. While working feverishly to perfect his Video Viking robots, the young inventor discovers that the Orb has succeeded in communicating its hostility to a ruthless scientific group on earth and has ordered the leader of Q to destroy Swift Enterprises.

After vanquishing his earth enemies, Tom launches his robots. The startling three-dimensional images of an unheard-of phenomenon which the Video Vikings send back during their probe of the Orb result in Tom's making another attempt at a manned landing.

The dramatic showdown with the master brain of the Green Orb climaxes one of the most daring space exploits in the young scientist-inventor's thrilling career.

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CHAPTER I

THE PEG-LEGGED GHOST

"How would you girls like to visit a haunted house?" asked Tom Swift Jr. as Bud Barclay's red convertible sped through the darkness.

The two boys, with Tom's sister Sandra and her friend Phyllis Newton, were returning from an evening date.

Sandy, a pretty, seventeen-year-old blond girl, glanced suspiciously at her brother. "Are you kidding?"

"No. You've heard me speak of Dr. Grimsey?"

"That new scientist who has been working with you at Enterprises?"

Tom nodded. "The house he rented came complete with spooks. I'd like to drop in."

Bud chuckled. "You should hear the stories he tells about that place! One night he heard boots clumping outside his room. He jumped out of bed and glimpsed the figure of a dead sea captain who used to own the house. Then it disappeared right before his eyes!"

"Oo-ool" Phyl shivered. "Where is this spook haven?"

"On that hill up ahead, overlooking Lake Carlopa," Tom said.

"Another night," Bud went on, "Dr. Grimsey was awakened by clammy fingers touching his face. There was Pegleg the Ghost bending over him!"

"Stop! You're giving us goose bumps!" Sandy moaned. "But let's go see the place, anyhow."

Bud turned off onto a dirt road which wound upward around the hill. Soon a house loomed ahead against the night sky. It was an old frame building with a high gabled roof. Lights shone through the unshuttered windows. Bud parked and the four teen-agers got out.

"Dr. Grimsey's deaf and doesn't always keep his hearing aid turned up," Tom said, "so bear with him if he seems a bit vague at times."

An elderly man answered their ring. He had a full bushy beard and a wild shock of iron-gray hair. His eyes twinkled at the young people through horn-rimmed eyeglasses. "Well, well, well! How delightful! Do come in!"

Tom introduced Sandy and Phyl. "This is Dr. Ethan Grimsey," he told them, "one of America's foremost electronic engineers."

When they were seated, Sandy remarked, "We were told this house is haunted, Dr. Grimsey."

"Rented?" The elderly man bent his head forward. "Yes, indeed. I leased the house when I came here to work on your brother's project."

Sandy repeated her question. The scientist's left hand, which bore a large hairy mole, flew quickly up to his hearing aid.

"I beg your pardon, my dear," he said with an embarrassed smile. "Er-yes-there have been some manifestations of a ghost here."

"The ghost of the former owner?" Phyl asked.

"Mm-well, yes, so it would seem. He was an old sea captain-a suspected slaver and pirate. He finally drowned, but it's said his spirit can't find rest because of his evil deeds."

Dr. Grimsey seemed oddly ill at ease talking about the ghost, so the girls began chatting about other subjects. Presently Dr. Grimsey asked Sandy and Phyl to excuse him and Tom.

"There are some calculations I'd like to go over in my study," he explained.

Sandy smiled. "Of course. Go right ahead."

The crew-cut young inventor got up to accompany their host. Bud rose, too,

saying, "I want to listen in on these geniuses."

Left alone, the girls made a closer inspection of the room. The walls were covered with dark-patterned paper, and red-plush drapes hung at the windows. The furniture was massive and old-fashioned.

"What a gloomy place!" Sandy murmured. "Imagine being alone here on a stormy night!"

A grandfather clock ticked loudly in the silence. Suddenly Phyl gave a stifled gasp and pointed with a quivering hand.

"Sandy! Look!"

A weird figure had materialized from a dark corner of the room! It was a peg-legged man in a brass-buttoned coat with a sea captain's hat pulled low over his eyes. He was drenched and dripping, and seaweed clung to his clothes'. As he moved out of the corner, a low moan came from his lips.

The girls watched, frozen with terror.

"H-h-he's dripping wet," Phyl whispered, "but he's not leaving any tracks on the carpet!"

"He just can't be a ghost!" Sandy insisted. She spoke to the figure but it made no reply.

Summoning all her nerve, Sandy got up and approached the specter. She reached out to touch him-but her hand went through his body!

The girls screamed and flew into each other's arms. They were clinging in panic as Tom, Bud, and Dr. Grimsey came rushing into the parlor.

"What's wrong?" Tom inquired.

"W-w-we just saw the ghost!" Phyl quavered.

Bud stared at them, then looked around. "Stop joking-there's no one here but us."

The apparition had vanished!

Sandy was about to speak when she saw smiles twitching at the boys' lips.

As her expression changed, Tom and Bud burst into laughter.

"Of all the mean tricks!" Sandy exclaimed. "They've been playing a joke on us, Phyll"

"But-but how? I know we saw it!" Bewildered, Phyl turned to Dr. Grimsey.

"And that story you told us about the sea captain-?"

The elderly scientist reddened. "Please forgive me. This young scamp, Tom Swift, arranged the whole thing and persuaded me to back him up with that ridiculous yarn."

Sandy grinned good-naturedly. "Okay, brother dear. You've had your fun. Now explain."

The young inventor was still chuckling. "What you've just seen," he announced, "is a demonstration of the new invention I'm working on-a three-

dimensional television system."

"Television?" Sandy wrinkled her forehead. "But the spook we saw wasn't on a TV screen-it was walking right through the room!"

"Exactly, because my system doesn't need a screen." Tom walked over and pulled aside some draperies. Concealed behind them was a boxlike device about four feet high, studded with tuning knobs and dials. A short latticework antenna protruded from the front of the machine. "This telejector, as I call it, projects 3-D images right into the room. You were actually watching a video tape which I switched on by remote control from Dr. Grimsey's study."

"Then the 'ghost' we saw was really just-well, just light?" Phyl asked in amazement.

"Not quite, although I hope to achieve that later," Tom said. "The images were formed from a chemical mist which Dr. Grimsey sprayed into the air beforehand. When the telejector beam strikes the mist particles, it makes them glow."

The chemical, Tom added, was obtained from luminescent sea creatures.

"Not a very good source of supply, but it's all we've had to work with so far." As Dr. Grimsey served cider and doughnuts, the girls giggled and joked about their fright.

"I suppose this was a historic moment, even if we were scared out of our wits," Phyl said. "Will your new 3-D system revolutionize home television, Tom?" The young inventor smiled modestly. "It will eventually, I hope, but it's not perfected yet."

As the foursome were driving home, Tom remarked, "Think I'll go back to the plant tonight. I'd like to observe that new asteroid, or whatever it is."

A strange heavenly body had been sighted by astronomers only the day before. It was apparently moving in orbit about the sun.

Phyl glanced up at the night sky from the open convertible. "Can we see it from here?"

"Not with the naked eye," Tom said. "But if it were visible, it might be quite spectacular. It's reportedly greenish in color."

Bud, too, was interested in viewing the object. After driving Sandy and Phyl to their homes, the boys headed for Swift Enterprises. This was the walled, four-mile-square experimental station outside the town of Shopton where Tom Jr. and his equally famous father developed their amazing inventions.

"Your 3-D television sure wowed the girls," Bud said with a grin. "But I still don't see how you focus the picture. If that chemical mist is diffused all through the air, how do you get the image to form at one place?"

"By the same wave-terminal principle I used in my megascope space prober," Tom explained, referring to his electronic telescope of potentially infinite range. "That is, the telejector beams out two

waves of slightly different frequency-and by varying the difference, I can adjust the range at which they'll be exactly 180 degrees out of phase."

"And the waves cancel out at that point?"

"Right. That point, or node, is called the wave-terminal point. Now then," Tom went on, "the telejector also beams out a picture signal. Part of the signal passes through the terminal point as waste energy. Another part is reflected back from the terminal point to the transmitter."

"That's the part you use in your space prober to make the picture on the screen?" Bud asked.

Tom nodded. "Yes-but in the telejector, I use the third part of the signal. This part is absorbed right at the terminal point, and the energy causes the chemical mist to glow."

"Giving you a single spot of light?"

"Exactly," Tom said. "Then, as the telejector scans, it forms a complete three-dimensional image out of many such spots of light."

"I get it now," Bud said as he halted the convertible outside the main gate of Enterprises.

The guard stepped from the gatehouse to speak to Tom. "There was a stranger here to see you, skipper. He hung around a couple of hours, hoping you might come back after dinner."

"Who was he?" Tom asked.

"Said his name was Mulver. He wouldn't tell me what he wanted, but he left a note for you." Tom read the scribbled message. It said:

Dere Tom Swift:

I can help you do some wunderful ex-pirmints in outer space. lie tell you all about it tomorrow.

Joe Mulver

Tom passed the note to Bud, who read it with a snort of amusement. "Great! The guy can't even spell and he's going to help you do some 'wunderful expirmints.' "

"Some crackpot, probably," Tom agreed. "Still, there have been some great scientists with little formal education, so it won't hurt to listen to him." Tom added to the watchman, "Okay, thanks, Tim. I'll see Mulver if he comes back."

The guard saluted and switched open the gates. The red convertible passed through into the plant grounds, dotted with sprawling laboratories, workshops, and hangars. Bud parked outside the main building. The two boys hurried inside and took the elevator to its domed observatory.

The latticework antenna of Tom's megascope space prober was mounted side by side with the Swifts' powerful reflecting telescope. Tom pressed a button to open the dome, then warmed up the electronic circuitry and trained the prober into position. After he had tuned several dials, a picture came onto the prober

screen. It showed a round yellowish-green mass.

"Looks like smoke," Bud muttered.

"The green stuff is its atmosphere," Tom explained. "Seems to be as thick and foggy as the atmosphere around Venus. But astronomers have already determined by orbital analysis that there's a solid body inside."

Moments later, the mysterious object began to take on a weird green glow. The glow became more and more intense and brilliant.

Bud gasped. "What's happening, Tom?"

"I don't know-I can't even guess!"

Suddenly the picture wavered and rolled across the screen. Tom reached out to adjust the set.

The next instant, the picture tube exploded with a lurid electrical discharge and a spray of shattering glass! Tom and Bud staggered backward, clutching their faces.

CHAPTER II SPACE DUST

SCRATCHED and cut by the flying glass, the hands of both boys were flecked with blood as they dropped them from their faces.

"Whew!" Bud looked at his fingers. "Will we need major surgery, Tom?"

"No, but I guess we could use some first aid." The two boys drove across the experimental station to the plant's infirmary. Here they found Doc Simpson, Enterprises' young medic, on duty. He cleaned their cuts and applied antiseptic. When the boys returned to the observatory, Tom unscrewed the back panel of the prober console to examine the circuitry. Many of the electronic parts were still hot and some of the fused insulation and resistors were smoking faintly.

"What the dickens happened, Tom?" "Something must have been knocked out in the power stages, causing an extra big surge. The circuits overheated and a flaw in the picture tube made it crack and implode.

A chance in a million."

Tom stood up in disgust and added, "Well, it's a cinch I can't fix all that tonight."

Before leaving, he took a final look at the mysterious sky object through the optical telescope. It still glowed with a weird brilliance.

Next morning, the young inventor and his father, Tom Swift Sr., were down early for breakfast, eager to hear the latest radio news about the strange heavenly body. There was a close resemblance between the famous pair-both had steel-blue eyes and keen features. Tom Jr. was taller and lankier, but Mr. Swift might have been his older brother except for a touch of gray at the temples. Mrs. Swift, a dainty, pretty woman, joined them at the table, then Sandy.

The newscaster was saying, "That strange object in the sky is still baffling astronomers. At first it was thought to be a new asteroid because of its orbital path around the sun. But last night the space voyager took on a mysterious green glow that threw observers into an uproar. Where it came from is now a bigger question than ever, and news dispatchers have nicknamed the object the Green Orb."

"You had a front row seat at the big sky show last night, son," Mr. Swift remarked.

Tom grinned wryly. "Ringside seat is more like it," he said, touching the scratches on his face. "Dad, I just can't figure out what—"

His words were interrupted by a loud, buzzing growl. Mrs. Swift glanced up. "The alarm system!" she murmured. "Goodness, I wonder who could be coming here so early?"

"I'll go see." Tom rose from the table.

The Swift home was surrounded by an electromagnetic field. Anyone breaking it by entering the grounds triggered a warning buzzer. The Swifts and their friends wore wristwatches containing tiny neutralizer coils to avoid setting off the alarm.

Tom peered through the one-way door glass. A gaunt, big-nosed man was about to ring the bell. His hair was long and unkempt, and his ill-fitting blue suit needed pressing.

Tom opened the door and smiled. "Yes?"

"Mornin', young fella. Are you Tom Swift Jr.?"

"That's right."

The visitor stuck out his hand. "I'm Joe Mulver. Came a long ways to see you."

Tom was surprised but shook hands and invited him into the living room. "I-er-got your note, Mr. Mulver. Just what did you have in mind?"

"Son, this could be the biggest break that ever happened to you." Mulver plopped into an easy chair, then leaned forward eagerly. "You see, I'm in touch with outer space!"

Tom was taken aback. "Oh-is that so?"

"Right! I keep pickin' up messages in my head. I figure they must be comin' from that Green Orb. And I decided that you were the guy to see. After all, you're the top space whiz in America-right?"

"Well, I've made some space flights, but—"

"No buts about it!" Mulver rapped his fist on the arm of the chair. "You hire me for experimental work, buddy, and I guarantee we'll make some red-hot scientific discoveries!"

Trying to be as diplomatic as possible, Tom said, "Mr. Mulver, I appreciate your coming to me, but the kind of messages you're talking about are out of my line. Perhaps if you went to some-• er-psychology lab-"

Mulver jumped up, red with anger. "Are you tryin' to claim I'm loony or somethin'?"

"No! I didn't say that. I was just-"

"It's what you meant, though-isn't it?" Mulver bellowed. "All right, Swift, you'll be sorry for this! You're missin' the chance of a lifetime to get the real dope on outer space!"

Mulver stormed out of the house. Tom went back to the breakfast table, much embarrassed.

"Who in the world was that?" Mr. Swift asked.

Tom told about his queer visitor.

"Poor fellow," Mrs. Swift said sympathetically. "I hope he'll be all right."

After breakfast Tom drove to the plant with his father. On the way, Mr. Swift inquired about the progress of Tom's 3-D television.

"Are you at the stage yet of creating your images directly from light," he asked, "or are you still using that bioluminescent mist?"

"Still using the mist," Tom replied. "I have some power problems and a frequency modulation problem to figure out before I can produce colored images just out of radiant energy alone."

"In that case, I've thought of a new luminescent material you can use." Mr. Swift pointed out that there were ways that cosmic particles could be made to glow. "With the new type of space-dust collector I've just perfected, you could collect a large quantity above the atmosphere."

"Dad, that's a terrific ideal" Tom said. "I could go up in the Challenger and gather enough for the rest of my experiments."

The Challenger was the revolutionary re-pelatron-drive spaceship in which Tom had out-raced a crew of foreign cosmonauts to the moon.

"My new collector's a simple device," Mr. Swift said. "I'll have one ready for you this morning."

"Great! Then I'll go up this afternoon."

Arriving at Enterprises, Tom went to his glass-walled private laboratory and picked up enough electronic gear to repair the prober. Then he jeeped to the main building and ascended to the observatory. He had scarcely set to work when the telephone rang. Tom answered.

Miss Trent, the Swifts' secretary, reported, "You have a call from a man who refuses to give his name. He says the matter is important."

Tom hesitated. "Okay, put him on."

The man's voice was deep and polite. "I understand you're developing a new

type of three-dimensional television, Mr. Swift."

Tom said nothing.

"Are you still there?" the caller queried.

"Yes, I'm listening," Tom said coolly.

The man chuckled. "In other words, you're telling nothing. Well, young man, I'm ready to buy your 3-D TV at its present stage without further development. Name your own price 1"

"I have nothing to sell," Tom replied.

"You mean you have no such invention?" the caller asked.

"Repeat, I have nothing to sell."

"In other words, you have invented a three-dimensional television set but won't sell it."

"Take it any way you like," Tom said curtly.

He heard an abrupt click at the other end of the line. Tom grinned and hung up.

"I'd better report the call to Harlan Ames," he decided. Tom immediately dialed the chief of Enterprises' security department.

After hearing the story, Ames asked, "Any idea how the news could have leaked out?"

"Well, there was a technical article I wrote on the wave-terminal principle that might have tipped our hand," Tom said thoughtfully. "And Dad and I discussed it at that recent symposium in Chicago on communications theory."

"You mean a smart scientist might have doped out from that talk just what you're working on?"

"Yes."

"Sounds to me as if some TV manufacturer's worried about competition from your new set," Ames said. "I'll do some checking."

Two hours later Tom was busy repairing the space prober when Bud came into the observatory.

"Got it fixed yet, Tom?"

"Just about. This time I'm installing an input-limit control."

"What'll that do?" Bud asked.

"Cut off power automatically in case the input voltage rises too high. It may not be needed, but I still don't know what caused the trouble."

Soon Tom had the prober ready to operate. He trained it for a view of the Green Orb, switched on power, and tuned the circuits carefully. In a moment a clear picture came on the screen.

"Hey! That green space spook isn't glowing any more!" Bud exclaimed.

The screen suddenly went dead.

"The input-limit control just cut out," Tom explained. "This is getting interesting, Bud."

Tom reset the control. This time he tuned down the signal amplifier. The

picture on the screen was dimmer but clear enough to see.
To the boys' amazement, the Orb was now glowing with green brilliance!
Bud gasped. "It's all lit up again!"

"And see how that greenish fog is writhing! The atmosphere is in a state of turbulence."

"How do you explain it, Tom?"

The young inventor paced back and forth in the observatory dome. "Bud, I can't explain it-yet. But what's happened makes me think two things. First, that glow is caused whenever our prober beam strikes the Orb."

"How come?" Bud asked.

Tom shrugged. "There may be a photochemical reaction in the Orb's atmosphere. Second-the power surge that overheated the set last night is also a reaction, which is caused when our picture signal is reflected back from the Orb." Bud shook his head. "I still don't get it."

"Don't you see," Tom said, "it's almost as if we're getting signal pulses from the Orb that shoot our input voltage way up."

"Why?"

Tom gave an odd smile. "Want a wild guess?"

"Sure. Let's hear it."

"Bud, there may be some form of life up there that doesn't want to be spied on! It may even be hostile to life here on earth!"

CHAPTER III

A TERRIFIED FACE

BUD gaped. Tom's idea about life existing on the mysterious space object was startling! "Do you mean something on the Green Orb may be trying to knock out the prober?"

"It's one possible answer," Tom said. "They, or it, or something, stepped up our signal strength and blew the set last night. It might have happened today if I hadn't used that limit control."

"They're hostile to earth life?" Bud asked.

"It's a wild guess, Bud. If the prober trouble was caused by some living agency, why else would it be so anxious to keep us from getting a close-up look at the Orb?"

"You've got me there, pal."

Bud accompanied Tom back to his private laboratory. Just before noon, Mr. Swift phoned to say that he had the space-dust collector ready. The two boys met him for lunch in the Swifts' big double office at the main building. The office had a huge picture window, leather chairs, and wide

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twin desks. Colorful models of their inventions were mounted about the room.

"What time do you plan to take off, son, to harvest those atomic particles?" Tom Sr. asked.

"I thought I'd hop over to Fearing right after lunch," the young inventor replied. Fearing Island, off the Atlantic coast, was the Swifts' rocket base. "Want to come along, Bud?"

"Sure thing!" Bud, a skilled flier and astronaut, usually acted as Tom's copilot. Just then a hefty figure in cowboy boots clumped into the office, pushing a food cart.

"Hi, Chow!" Tom smiled. "What's for lunch?"

"Somethin' special, buckaroos!"

Bowlegged and balding, with a face like sunburned leather, roly-poly Chow Winkler had been a chuck-wagon cook in Texas. The Swifts had met him while doing some atomic research in the Southwest. Later, they had persuaded the jolly cowpoke to come East as their private chef at Enterprises.

Bud watched suspiciously as the cook ladled out a thick, gooey yellow concoction.

"What's that gunk?"

"Buddy boy," said Chow, "jest taste it. This is goin' to be a specialty o' the house fer that new diner Gus Miller is openin' at Fernwood."

Gus, who already operated one diner in Shop-ton, was a pal of Chow's.

"Say," Tom put in, "is that the place advertised on that big elephant sign-the one at the top of

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the cliff on the coast-Miller's Jumbo Diner? I saw it the other day when I was flying back from Fearing."

Fernwood was on the mainland across from Fearing Island. Base crewmen often ate there.

"Yup, that's right." Chow nodded importantly. "Gus has a new partner who's put up money so they kin branch out. You should see the classy layout! An' that sign can be seen fer miles by bathers an' boaters an' highway drivers. Natcher'ly they wanted somethin' extra-special on the menu fer openin' day, so they called on me."

Bud spooned into the concoction. It contained tasty chunks of meat. "Mm, not bad. What is it?"

"Elephant fricassee."

Bud spluttered and choked. After Tom had pounded him, Bud gasped, "Elephant?"

"Yup. I ordered the meat special from an importer an' stewed it up with bananas an' okra. Figgered we might call the stuff jumbo gumbo."

Tom was quaking with laughter at Bud's expression but managed to nod approvingly. "Ties in with that pink elephant on the sign, eh?"

"That's what gave me the idea," Chow explained. "But Gus says his partner

jest dreamed up a new name fer the diners that's sure to attract lots o' business, so the elephant's comin' down."

"I'll bet I know why it's comin' down-'cause

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the partner got a taste of this jumbo gumbo," Bud whispered as the Texan ambled off.

While they ate, Tom told his father about his latest space-prober observations of the Green Orb. He also explained his hunch about the existence of life on the weird sky object.

Mr. Swift was startled. "Whether or not you're right, son, I think you should report all this to Washington. Government scientists are trying to find out all they can about the Orb."

"Good idea, Dad. I'll call Bernt Ahlgren."

Ahlgren, a top scientist of the Defense Department's Advanced Research Projects Agency, was an old friend. Tom telephoned him.

"Hmm. Sounds as if you're right that the prober beam caused the Orb to glow last night," Ahlgren said, after hearing Tom's report. "That will take some real explaining by astronomers."

As to the electromagnetic reaction which had damaged the prober, and whether it indicated life on the Green Orb, Ahlgren was more cautious. But he was keenly interested in the theory.

"How much has been learned about the Orb?" Tom asked.

"Not a great deal. The national radio telescope has been tuning in on it, and they've picked up some interesting wave activity. I'll have some of the graphs sent to you right away."

Ahlgren added that both the Defense Department and the Federal Communications Commis-

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sion were concerned about another aspect of the Orb. "Its electromagnetic field seems to be disturbing our radio communications as sunspots do."

While Tom was on the phone, Bud had attended to having the space-dust collector loaded aboard a Whirling Duck-a combination jet plane and helicopter which Tom had invented. The boys soon took off, with Bud at the controls, and headed eastward to the Atlantic.

"There's the Jumbo Diner sign," Tom remarked with a smile as they neared the coast.

The sign, displaying a huge pink elephant with the diner's name, was mounted on a platform atop a high steel mast. The platform carried floodlights and was designed to revolve. Two workmen were on it, dismantling the sign.

"They must be getting ready to put up that new name Chow mentioned," Bud said.

Tom took out binoculars. "Pretty expensive, changing a sign that big. Gus's

partner must have lots of ready cash."

Bud cut speed and extended the Duck's rotors to hover down for a better view. The workmen glanced up at the sound. One was a thin, sallow-faced fellow, the other dark and burly.

As the burly man saw the helijet, he gave a violent start that threw him off balance. He teetered and groped for footing-but his foot missed the edge of the platform! With a scream, he plunged over the side, struck a guy wire, bounced off, and landed in a clump of brush.

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The boys were white-faced with horror. Bud descended immediately while Tom switched on the radio and called the Fearing Island operator.

"Phone Fern wood Hospital for an ambulance-fast!"

The boys landed, leaped out, and ran to the motionless victim. As Tom checked his pulse, he had the feeling he had seen this man before.

"Still alive. Thank goodness that guy wire and the brush helped to break his fall!"

By this time the workman's partner had climbed down from the tower. Tom identified himself and said an ambulance was on the way. Presently it arrived and an intern examined the unconscious workman.

"No broken bones," the medic announced, "but there's always danger of a concussion."

The victim was put on a stretcher and the ambulance sped off. The other workman said he would follow it, and hurried off to a truck parked nearby.

"What an awful thing to happen!" Bud gulped as the boys took off.

"Yes," Tom said glumly.

Fearing Island had once been a desolate patch of sand dunes and scrubgrass. Now it was a tightly guarded complex of laboratories, workshops, and launching areas. Skyscraper-tall rockets bristled on their pads.

Tom radioed the Fearing control tower for clearance past the ring of circling drone planes

A TERRIFIED FACE 27

that guarded the base. The boys landed near the Challenger's launch site.

The enormous spaceship looked like a huge silver cube caged within spherical rails. The rails were tracks for swiveling and aiming the ship's dish-shaped repelatron radiators. The radiators beamed out powerful repulsion waves for takeoff and space-drive.

In twenty minutes the space-dust collector had been installed on the ship's outside landing platform for auxiliary craft and connected through a power jack. The collector itself was a large empty tank with ionizing rays and electrodes for collecting the cosmic particles.

Tom, Bud, and a small crew took their places aboard and Tom fed power to

the repelatrons. The Challenger soared skyward. The earth fell away into a tapestried globe. Presently the Swifts' glistening sky-wheel space outpost could be seen floating in the blue-black void.

At 5,000 miles altitude, Tom switched on the space-dust collector and set the controls for an orbital course. Suddenly the ship lurched sharply. The acceleration meter went wild-showing a tremendous negative acceleration.

"We're plunging toward earth!" Bud cried out.

CHAPTER IV

"A REPELATRON must have gone haywire!" Tom exclaimed. He switched to manual control and began guiding the ship back into orbit.

The boys were in pilot's and copilot's seats, rather than strapped to cots, since the Challenger's normally smooth, constant acceleration produced no G-shock.

Tom frowned as he glanced at the thrust and astrogation dials. Then he flicked on the space-position-finder screen. As colored dots glowed on the screen, showing the position of various heavenly objects, Tom grinned and pointed to one object. "There's the answer, Bud."

Bud looked puzzled. "Hey, that's a new one!"

"It's our friend, the Green Orb," Tom explained. "Our steering computer must have aimed one of the repelatron beams at it-and somehow there was no force resultant from the tack. The

28

Q 29

push from the other repelatrons is what knocked us off course."

"Sufferin' satellites!" Bud muttered. "That green-eyed baby doesn't like any kind of beams!"

Tom unhooked his seat belt and strode over to the Challenger's, space prober. He switched it on, tuned the signal amplifier low to avoid any danger from an overload, and trained the prober on the Orb. Again it had a brilliant green glow, and its atmosphere was writhing with turbulence!

Tom went back to his pilot's seat and contacted Ken Horton, commander of the space outpost. He asked if the sky wheel's astronomers had been keeping the Orb under steady observation.

"Yes. After last night there was no new outburst until it started to glow again at eleven-ten this morning," Horton radioed. "That faded, but just now the brilliance and turbulence resumed."

"Thanks, Ken. That's all I wanted to know." Tom and Bud exchanged thoughtful looks.

"What do you make of it?" Bud asked.

"This may wreck my theory about life on the Green Orb," Tom mused. "I've been speculating that some form of life there didn't want to be spied on by our prober. But as you pointed out, fly-boy, the Orb must react to any

electromagnetic beam."

"Any idea of the cause?"

Tom gave a puzzled shrug. "Maybe some factor in the Orb's atmosphere, but that's a guess, too."

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The space cruise continued. Presently Tom donned a space suit and went out through the airlock to examine the space-dust collector. The tank was almost filled. The particles inside had coagulated into a metallic mass.

Tom returned to the flight compartment. As he removed his space helmet he said to Bud, "Take her down, fly-boy. Dad's new collector worked great. We have enough Stardust for half a dozen 3-D television shows!"

Twilight had fallen by the time the Challenger landed on Fearing Island.

Before returning to the mainland, Tom jeeped to base communications for a word with George Dilling, Enterprises' lanky radio chief. Tom told him what Ahlgren had said about radio difficulties, then asked, "Have you experienced any trouble, George?"

"We sure have," Dilling reported. "There's no particular pattern to it, but we've had freak transmission, or have been knocked off the air at least twenty times in the past few days."

With the space-dust collector loaded aboard their Whirling Duck, Tom and Bud started back to Enterprises. The jet whistled westward across the water in the gathering darkness. Minutes later, they were approaching the lighted ribbon of highway that ran past the experimental plant into the town of Shopton.

Bud gasped. "Roarin' rockets! Am I seeing things?"

A radiant green ball was floating low in the sky!

Q 31

It was hovering between Enterprises and the outskirts of town. Its weird radiance shed a greenish glow over the whole area.

Tom was as astounded as Bud. He slowed throttle and extended the rotors, then cautiously steered toward the glowing sphere.

Both boys burst out laughing! The green ball was a moored balloon, coated with phosphorescent paint. It bore the words:

EAT AT THE GREEN ORB

DINERS shopton-fernwood

"Talk about advertising stunts," Tom said, still chuckling, "this takes the prize! It almost had me thinking the Martians had landed!"

The boys flew on to the Enterprises airfield. Its tower operator said to Tom, "There's a package for you in your office, skipper."

"Understood. Thank you," Tom radioed back.

The Whirling Duck touched down gently on the airstrip and Tom turned it over to a mechanic.

"I-er-sort of had a date with Sandy if we got back in time," Bud said.

Tom grinned. "We did, so go ahead, pal."

With a parting wave, Tom jeeped to the main building and hurried inside to the Swifts' double office. A bulky envelope from the national radio-telescope observatory was lying on his desk. A note from Miss Trent said that it had arrived by jet.

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"The radio-telescope graphs!" Tom guessed.

He ripped open the package and pulled out a sheaf of tapes. They were marked into squares like mathematical graph paper, and bore jagged tracings of pen lines. These were records of the electrical current output of the amplifiers of the radio telescope monitoring the Green Orb.

Tom sat down and began poring over1 the graphs. "Sure don't look like any I've seen before," he thought with a puzzled frown.

A short time later there was a knock on the door.

"Come in!" Tom called.

Doc Simpson walked into the office, looking somewhat perturbed. "Hi, skipper!" he said. "I checked with the tower and heard you got back, and then I saw a light here so I stopped in."

As the young medic came over to Tom's desk, he saw the radio-telescope graphs-then took a second, closer look and immediately became interested.

"Say, what are those things?" he asked.

When Tom told him, Doc was amazed. "Those look like electroencephalograms!" he declared.

"You mean like graphs of human brain waves?"

"They sure do. That one there, for instance, looks just like a P-type alpha-wave pattern."

Tom's eyes sparked with interest at this odd coincidence. Was his hunch about life on the Green Orb right, after all? Did its radio waves indicate some human-type intelligence?

"Before we get sidetracked, though," Doc said,

Q 33

"I just had a call from the Fernwood Hospital."

Tom's face clouded. "About that workman who fell off the sign platform? How is he, Doc?"

"Out of his coma, but the fall must have caused a brain injury. He can't speak, and they say he seems terrified of something."

Tom frowned. "They have no idea why?"

"None. But that's not all, skipper. About an hour ago he scrawled a message, asking to see Tom Swift. That's why the hospital called."

Tom glanced at his wristwatch. "Could we still get in to see him?"

Doc nodded. "If we can get there fast enough. Visiting hours are till nine o'clock."

"Let's go then. We'll take an atomicar."

The sleek, bubble-domed vehicle, another of Tom's inventions, carried an atomic capsule which powered a small electric motor at each wheel for ordinary road travel. It also had a repelatron lifter and air jet for flying.

Tom and Doc took off from Enterprises and sped eastward. Soon after eight-thirty their atomicar glided down onto the hospital parking lot. At the reception desk in the lobby they were told that the patient's room was on the third floor.

When Tom and Doc stepped off the elevator, they sought out the floor nurse.

Doc Simpson introduced himself and Tom to her and asked directions to the right room.

The nurse hesitated and glanced down the hall. "I believe I saw an intern go in there," she

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murmured. "He may be examining the patient. I'll check. Please wait a moment."

Tom and Doc nodded. The nurse went into a room a few doors away.

Suddenly there was a scream.

"Good grief!" Tom glanced in alarm at Doc Simpson. Both ran toward the room, brushing past several startled visitors.

Tom entered first. A window was wide open and a man in a white intern's uniform was straddling the sill. The next moment, the man dropped into the darkness without a backward glance!

Meanwhile, the terrified nurse was aiding the patient—the dark, burly workman who had fallen from the sign mast. He was staggering woozily and a livid bump was rising on his forehead.

As he reeled back, he groped for a pencil and note pad on his bedside stand. The workman scrawled something, then collapsed on the bed.

Tom dashed toward the window. The figure in white had landed on a narrow-roofed portico at the rear of the building and was about to drop to the ground. Then Tom glanced at what the workman had scrawled. The pad bore a single letter-Q!

CHAPTER V

GOVERNMENT MISSION

THERE was no time to puzzle out what the Q might mean. In seconds the mysterious assailant would be gone. Doc Simpson and the nurse were busy attending the patient.

"I'm going after that fellow!" Tom cried. He dashed through the cluster of onlookers. The elevator signal pointed to the ground floor. To wait would lose precious moments. Tom saw a door marked exit and ran toward it. He sped downstairs to a ground-floor hallway which led to offices and the emergency ward.

Tom burst out the back door of the hospital onto the lighted rear portico. His

ear caught the vroom of an engine starting, then a car speeding off. He sprinted toward the sound into a dark, paved alley. The car was out of sight.

"A clean getaway!" Tom murmured in disgust.

He hurried back to the third floor. Police officers arrived and the nurse told her story.

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"When I came into the room," she said, "I saw a man dressed like an intern holding a gun at the patient's back."

"Then it wasn't anyone on the hospital staff?" questioned the officer in charge, Sergeant May.

"No, his face wasn't familiar. I screamed and he jerked around. Then the patient tried to grab his gun. But the man got his hand free, struck the patient, and leaped out the window."

"Was it your impression he came here to kill the patient?" asked the sergeant.

"To kidnap him, I think," the nurse replied. "Just as I entered the room I heard the man say, 'Start walking-and no funny business!'"

"He probably planned to march the patient down the back stairs," Tom said.

"With his intern's getup, I'll bet no one would have stopped him."

"Wouldn't someone have noticed his gun?"

Tom pointed to a blanket lying on the floor. "Perhaps he planned to cover it with that. And he had a getaway car waiting."

Sergeant May told his partner to phone in an alarm. He turned to Doc Simpson and another physician who were attending the unconscious man. "Any chance he'll be able to talk soon?"

The hospital medic shook his head. "Not likely. He suffered a brain injury even before this blow tonight. It may be weeks before he can be questioned. Right now he's in a deep coma."

Frowning thoughtfully, Tom studied the work-

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man. His face seemed familiar, but the young inventor was unable to place it. Meanwhile, the floor nurse reported that the patient had carried no identification papers.

Tom put in, "The man working with him on the sign said he was going to follow the ambulance. Didn't he get here?"

"Not as far as our records show."

"Any idea what this letter Q means, or why he wanted to see you?" Sergeant May asked Tom.

"No," Tom said. "Incidentally, Enterprises will pay his hospital bills. And we'd appreciate it if he could be kept under guard at all times."

Next morning at the plant, Harlan Ames, the slim, dark-haired security chief,

was as puzzled over the affair as Tom. "What I'd like to know, skipper," he mused, "is why he became so terrified at the approach of the helijet."

"I'd like to know, too," Tom said. He paused. "Come to think of it, Harlan, when the accident happened, I remember thinking he looked vaguely familiar to me."

"Think you can place him?"

Tom shook his head. "No, but let's say I have run up against him before-maybe in connection with some criminal plot against Enterprises. The helijet has my initials in its registration number- N527TS. If he spotted them and knew it was my ship, he might've feared I had come close enough to recognize him. That would explain why he became so startled and terrified."

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"If he was afraid of you," Ames pointed out, "why would he ask to see you later on?"

Tom conceded gloomily, "It doesn't add up."

"What about that letter Q?" Ames went on. "Doesn't that mean something in electronics?"

"Yes, it's a technical term, but I doubt if that's what he meant," Tom said.

"Maybe it was the first letter of a word he wanted to write."

Ames nodded. "Well, I'll have his prints tele-photoed to the FBI right away. We'll check him out with Gus Miller, too."

Tom left. He decided to go directly to his private laboratory. It took up one floor of a modernistic, glass-walled building and was filled with a vast array of scientific equipment.

Here, Tom made three phone calls. Then he connected the tank of space dust to his electrical-control panel. By reversing the polarity of the ionizing rays, he soon neutralized the charge on the metallic mass in the tank.

Presently Dr. Grimsey, Felix Wong, and Arvid Hanson arrived. All three had been working with Tom on his three-dimensional television system. Felix, a round-faced young Chinese-American, was a brilliant engineer. Arv was a genial, hulking craftsman who often turned out the pilot models of Tom's new inventions. Tom showed them the space dust and said, "This should provide enough luminescent material until I perfect my light-image circuitry."

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"How do we diffuse the stuff through the air?" Arv queried.

"I have an idea that will enable us to use the same particles over and over again." Taking a pencil, Tom sketched a system of tubing-an upper rack of tubes to go near the ceiling and a lower rack near the floor. These were connected to a centrifugal air pump.

"The pump will force the space dust into the upper tubes," Tom explained.

"These will have fine holes so the particles can filter down through the viewing area. With the floor tubes perforated, too, the particles can be sucked in and

forced up through the system again."

"Neat," Arv said. "I'll get right on it."

"Not all of these space particles will luminesce," Tom pointed out, "so we'll need some way to sort out the ones that do. He asked Felix Wong to build a special mass spectrometer to sort and grade the particles.

Last, he assigned Dr. Grimsey to devise a high-voltage energy-charger to activate the particles so the 3-D picture signal would make them glow.

The elderly scientist listened gravely as Tom explained the energizer circuitry he had in mind for the charger. "Crystal clear, Tom. You have already solved most of my problems."

Tom gave a rueful grin. "Too bad I can't solve the light-image problem just as easily."

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After the three had left, Tom seated himself at his work desk. Slide rule in hand, he tackled the job of designing circuits that would enable him to intensify the picture-signal impulses into bursts of visible light.

As Tom wrestled with a tough set of equations, the telephone jangled. Tom answered. Miss Trent told him Bernt Ahlgren was calling from Washington.

"Thanks. Put him on," Tom said.

Ahlgren reported that the National Research Council had called an emergency conference at two o'clock that afternoon to discuss the Green Orb situation. "This is short notice, Tom, but we'd like you and your father to be present."

"I'm sure we can make it."

After Ahlgren had hung up, Tom called his father, who readily assented to the trip.

"Dad," Tom went on, "why don't we consult our space friends about the Orb?"

"Excellent idea," Mr. Swift said. "Suppose I meet you at the space communications lab."

Months ago, a black meteorlike missile had landed at Enterprises, bearing strange mathematical symbols. The Swifts had decoded these symbols and learned that the senders were a race of creatures in outer space. Soon Tom and his father were able to communicate with them, using a powerful space transmitter and an oscilloscope type of receiver to register incoming signals.

Later, Tom had devised a translating

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computer to code and decode the messages automatically.

Mr. Swift watched as Tom tapped out the message on the translator brain's keyboard:

SWIFTS TO SPACE FRIENDS. WE NEED ALL AVAILABLE INFORMATION ABOUT GREEN BODY ORBITING SUN. CAN YOU ASSIST?

The two inventors waited eagerly. Soon a bell rang on the electronic translator. Weird symbols began to flash on the oscilloscope screen. The answer to the Swifts' message was being spelled out on tape:

SPACE FRIENDS TO SWIFT. GREEN BODY IS ...

Abruptly the symbols faded from the screen and the machine tape stopped unreeling.

"What's wrong?" Tom muttered. He checked the translator, then repeated his call to the space creatures. The screen remained blank.

Tom turned to his father uneasily. "Do you suppose their signal's being jammed?"

"Either that or we're having the same kind of transmission trouble the FCC is concerned about." Mr. Swift added thoughtfully, "It's possible the space people have some reason of their own for not continuing the message."

Still worried, the two inventors jetted to Wash-

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ington immediately after lunch. A limousine whisked them from the airfield to the Pentagon. Within minutes, the conference got under way.

Dr. Leo Palfrey of the National Research Council reported that radio communications were still being freakishly disrupted. The trouble seemed to be triggered by radiation from the Orb that affected the ionosphere. Dr. Henry Grant, a naval observatory astronomer, admitted that he and his colleagues were unable to explain the Green Orb's origin.

"Its unusual atmosphere," he added, "makes me think that the Orb is not an asteroid."

The scientists were amazed when Tom said, "The Green Orb's radiographs resemble human brain waves. Our plant physician says they have the same rhythm as P-type alpha waves on an electroencephalogram."

There was a puzzled silence. At last Bernt Ahlgren said slowly, "So far none of us has suggested that the Orb may be the work of an enemy agency. But this is a possible danger that the Defense Department cannot disregard."

He pointed out that the Swifts' space friends had moved Nestria, the phantom satellite, into an earth orbit and that aerospace experts had already proposed the capturing and shifting of small asteroids.

"We must face the possibility," he said, "that the Orb was moved into position by an enemy on

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earth or in space. Its atmosphere may have been artificially created to hide what is happening there. Tom, could you undertake a probe of the Green Orb in your spaceship?"

The young inventor was staggered by the responsibility being thrust upon him. But after a glance at his father, who nodded, Tom agreed.

"I can take off tomorrow morning," he added.

The Swifts flew back to Enterprises and plunged into preparations for the space cruise. Later, Har-lan Ames came hurrying into Tom's lab.

"The FBI has identified that injured workman, skipper," Ames reported. "He's Klaus Sturko, one of the enemy group that tried to seize your undersea helium wells."

Tom was startled. He snapped his fingers as he recalled the adventures he had had while planning and building his deep-sea hydrodome. "No wonder his face looked familiar!" Tom exclaimed. "His head was shaved then—which is probably why I couldn't place him."

Ames explained that Sturko had escaped from prison. "When he saw your helijet, he must have been scared you'd recognize him."

"And if Sturko's working for some new enemy group," Tom reasoned, "they may have feared the same thing. That's why they tried to kidnap him. They probably consider him a dangerous liability."

"But why did he ask for you?" Ames objected.

"Because he was afraid the gang might try to get

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rid of him, so he decided to see if he could make a deal with me."

Ames socked his fist into his palm. "I'll bet you've hit it, skipper!" He added that Gus Miller knew nothing of Sturko's or his partner's background. "They just came to the diner and offered to erect the sign very cheaply, so Gus hired them. They also left a phone number which Gus called when he wanted the sign changed. We've traced the number to a small workshop in town, but the place is empty. Sturko's partner must have pulled out."

Tom frowned. "Harlan, I don't know what they were up to, but you'd better have that sign checked for clues of any kind."

The conversation was interrupted as Miss Trent brought in a special-delivery letter. The envelope was addressed in green ink to Tom Swift.

"It just arrived," she reported.

Tom tore open the envelope postmarked Shop-ton. The letter inside was printed by hand, also in green ink. Tom's eyes widened as he read:

CALL OFF YOUR 3-D PROJECT IF YOU WANT TO STAY HEALTHY,
SWIFT. THIS IS THE ONLY WARNING YOU'LL GET!

CHAPTER VI

REVOLVING EARS

TOM handed the letter to Ames. The security chief scanned it quickly, then looked up with an angry frown. "What do you think, Tom? Another move by Sturko's outfit?"

The young inventor shrugged. "Could be—but I have a feeling it's more apt to be tied in with that phone call I got yesterday."

"The one offering to buy your new TV system?"

"Right. Have you turned up any leads on competitive television manufacturers?"

Ames shook his head. "Not yet, but I've hired some private investigators to help us cover the field." Ames promised to check with the post office immediately and try to trace the threatening letter.

Before closing time, the security chief phoned Tom's laboratory. Ames reported that Swift technicians had examined the diner sign at Fern-
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wood and found nothing suspicious. Ames also said that the post office could shed no light at all as to the sender of the letter.

Tom and Bud had dinner at the Swift home. Mrs. Swift served fried chicken and hot biscuits, followed by strawberry shortcake. She smiled with pleasure at the boys' hearty appetites, but as usually happened before one of Tom's expeditions she was rather quiet.

"Don't worry, Mom." Tom gave her a hug as they left the table. "Our space hop tomorrow won't amount to much more than a flight to Little Luna." This was a nickname for Nestria, the phantom satellite.

"I know you and Bud will be safe," Mrs. Swift murmured, "but please get back soon."

Sandy helped with the dishes, then joined the boys in the living room. "Now that I have you two astronauts well-fed and defenseless," she said, "how about double dating Phyl and me Saturday night?"

Bud grinned. "Need you ask?"

"Well, not you, maybe, but I'm not sure my genius brother over there is interested."

Tom, who had been staring out the window, chuckled apologetically. "Sorry, Sis. I was wrestling with a TV circuit problem. Sure, I guess we can make it. What's on the program?"

Sandy's blue eyes sparkled teasingly. "Since you're so terribly eager, I think I'll keep it a secret. I will say this much, though-the entertainment

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we have in mind is practically made to order for a big brain like yours."

The boys were mystified but Sandy refused to explain.

At nine o'clock Tom and Bud drove back to Enterprises. A Whirling Duck was waiting on the airfield. As they boarded the helijet and fastened their seat belts, Tom looked at his watch.

"We'll just miss a blast-off on Fearing."

"Cargo rocket?" Bud asked.

"Yes, to Little Luna." The Swifts had set up a permanent base on Nestria.

Both it and the space outpost required frequent rocket flights for the transport of supplies and personnel.

The Duck soared off the airstrip. With rotors folded, the sleek craft whined eastward through the moonlight. Soon the coastline loomed ahead, silhouetted against the brightness of the sea.

"Looks as though Gus still doesn't have the new name up on his diner sign," Bud remarked.

The boys could see the partly dismantled figure of the elephant atop the mast. Tom noticed that even though the floodlights were not on, the sign platform was slowly revolving.

"Silly to waste juice like that," he thought.

A moment later Bud heard him gasp. Tom veered the helijet in a sudden bank that sent them circling far out over the water. Then he cut speed and extended the rotors for hovering.

"Hey! What's wrong?" Bud exclaimed.

"Just a hunch, fly-boy, but I'm going to check it

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out." Tom called Enterprises on the radio. "Ask Ames to send a tech crew over to Fernwood in a hurry," he told the operator. "Also tell him to call Gus Miller and get permission to dismantle the diner sign. It's for urgent security reasons involving our rocket base."

Bud waited until the Whirling Duck landed on the grassy cliff. Then he asked with a puzzled grin, "Mind telling me what this is all about?"

Tom related how the injured workman had been identified as Klaus Sturko.

"A couple of techs looked the sign over and found nothing out of line," he went on. "But seeing the platform, revolve just now gave me a hunch."

"I still don't get it," Bud said.

"Get a load of those floodlight reflectors on the platform. Don't they seem a bit large?"

Bud peered upward in the moonlit darkness. "Well, now that you- Roarin' rockets!" Bud's mouth dropped open as he caught on.

Ames and the crew of technicians soon arrived in a helijet. The men cut power to the sign, then scaled the mast and began disassembling the floodlights.

"You guessed it, skipper," one reported by walkie-talkie. "These reflectors are dish antennas-there's a separate wiring system for the signal pickup."

Ames gaped. "You mean those dishes have been tracking our rockets right under our nose, Tom?"

"Yes-probably eavesdropping on all the space

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data being telemetered back to Fearing. The revolving sign made a perfect camouflage."

The legs of the tower were anchored in concrete. The Swift crew traced the antenna wires and found that they passed through the concrete, concealed inside the structural steel members.

"Think there's a relay transmitter?" Bud said.

"That's one possibility," Tom replied. "Or they may have installed underground devices to record the telemetered data on tape."

The concrete foundation appeared solid. Both helicraft soared aloft to illuminate the area. But a careful search revealed no entrance to an underground compartment.

"What'll we do, skip?" the crew chief asked. "Get some jackhammers and tear up the concrete?"

Tom thought for a moment, then shook his head. "If there are underground recording devices, someone must come to collect the tapes. Harlan, let's post a twenty-four-hour lookout."

"Good idea." With a frown Ames added, "We've been assuming Sturko and his partner just heard Gus Miller needed a sign and asked for the job of erecting it. Now I'm not so sure."

"This setup's too elaborate to have happened that way," Tom agreed. "I'll bet this sign was planned from the very first for space snooping."

Ames nodded. "Gus Miller's okay, but we know nothing about his partner. I'll check on him."

Tom and Bud flew on to Fearing and bunked

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overnight at the base. Morning dawned bright and cool, with a pearly sky and good weather for their take-off. After breakfast in the mess hall, the boys jeeped to the launching area.

A picked crew of volunteers for the flight was already on hand, including Chow Winkler and Hank Sterling, Enterprises' chief engineer.

"She's all checked out, skipper," Hank said.

Tom glanced with pride at the Challenger, looming like a huge, fantastic silver gyroscope. "Okay, Hank-I'm sure she'll get us there."

Before they boarded the spaceship, a jeep sped up to the launch site. Mr. Swift stepped out and shook hands with the crew. "Good luck, son. I couldn't resist flying over to see you off."

"Thanks, Dad." Tom grinned and gripped his hand. "This won't be any cinch, but I sure want to see what's under that green atmosphere!"

The crew entered the airlock and took the elevator to their posts. Tom switched on the atomic generators and the mighty ship came alive. Flashing lights on the element-selector panel showed the proper "mix" for the repulsion rays. Then Tom lined up the isotope indicators, tuning the repelatrons for maximum ground thrust.

The Challenger zoomed into the sky. With no G-force pinning them to acceleration cots, Tom, Bud, Chow, Hank, and a radarman could fully enjoy the breath-taking sight through the pilots' twin view panes.

"Brand my bacon!" Chow exclaimed. "I never

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thought I'd be gazin' down on ole mother earth from this high up when I was jest a Texas chuck-wagon cook!"

Bud chuckled and winked at Tom. "Well, this is one way to cut Texas down to size!"

Soon they were above the stratosphere. The dark immensity of space lay all about them, starred with glittering diamond points of light.

At 22,000 miles aloft, they came abreast of the space outpost. The twelve-spoked wheel bristled with antennas and latticework telescopes. From one of the spokes, polished mirrors gaped open like eyelids to focus sunlight onto the assembly line of Tom's solar-charged batteries.

The Challenger sped through the void. In a while Nestria could be seen-a tiny cragged and cratered asteroid racing around the earth.

"How long will our flight take?" Bud asked.

"Approximately six hours," Tom replied. "That's at constant one-G acceleration."

A feeling of tension gripped everyone when the Green Orb finally came into view. Its thick, yellowish-green atmosphere gave it the look of a soft ball of cotton batting. Minute by minute, the mysterious object loomed larger.

"Do we plow through for a landing?" Hank asked.

Tom shook his head. "We'll orbit first and take some instrument readings."

As he conned the flight dials and swiveled the steering repelatrons, the ship gave a sudden lurch.

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The Orb lit up with an intense glow. The compartment shone with its greenish brilliance!

"What in tarnation's goin' on?" Chow gulped.

"The Orb just reacted to our repelatron beam again," Tom said. "We'll have to steer by some other bodies."

Tom had kept contact with Fearing throughout the flight. Now he began to radio back a report of the orbital maneuver. Absorbed, Tom failed to notice his crewmates' silence.

Suddenly Bud slumped forward against the instrument panel. The copilot was unconscious!

"Help him, Hank!" Tom looked around and gasped in dismay. Chow had sunk to the floor. Hank and the radarman were leaning against the bulkhead, eyes closed, on the verge of collapse.

Tom checked the rest of the crew by intercom. No answer! "Tom to base!

Something's happening to the crew!" he radioed frantically. "D-don't know what's wrong. . . . They . . . they've passed out!"

Tom's eyes felt heavy. An overpowering drowsiness enveloped him. He fought to stay awake, then suddenly sagged in the pilot's seat!

CHAPTER VII

THE FRIGHTENED FROGMAN

AT the tracking center on Fearing Island, George Billing and his crew waited tensely.

"Base to Tom! Come in, please! . . . Fearing calling Challenger! Can you read us?" Again and again Billing spoke into his headset mike.

The tracking technicians sat at their consoles in anxious suspense. "Tom must have blacked out, too!" an aide murmured to Billing.

Meanwhile, a deathlike silence reigned in the Challenger's flight compartment. The ship circled soundlessly about the Green Orb with no hand at the controls.

Moments later, Tom stirred in the pilot's seat. He felt as if a whining dentist's drill were at work in his brain, piercing through thick layers of fog. The drill changed to a buzz saw, then to a wildly shrieking banshee as fire trucks raced toward him, sirens wide open. A giant alarm clock exploded and kept on shrilling insanely.

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THE FRIGHTENED FROGMAN 55

Tom came awake with a painful effort. "Those crazy noises!" he thought.

Then he realized the sounds were coming over the radio-high-pitched squeals, buzzing, and raucous beeps!

Tom grabbed the mike. "Challenger to base!" he exclaimed. "Can you read me?"

"We read you-loud and clear," Billing's voice replied. "Are you all right, skipper?"

"I-I guess so. . . . But what was that racket on the radio? Someone jamming our frequency?"

Tom could hear Billing chuckle with relief. "We were just trying to jam you awake. You must have blacked out. What about the others aboard -are they okay, too?"

Tom glanced around. His crewmates were moving groggily. They seemed to be fighting to regain consciousness as if they, too, had been roused by the piercing radio noises. But their heavy-lidded eyes looked ready to close again. Tom shook himself as he felt the same drowsiness as before dulling his brain. "Over for now, George," he mumbled into the microphone. "We'd b-better clear out of here p-p-pronto!"

Leaden-fingered, Tom fumbled at the controls, setting a course back to base. Then he sagged against his seat belt as the Challenger veered from the Orb and streaked earthward again.

Twenty minutes later the astronauts began to revive-Tom and Bud first, then Hank Sterling, the radarman, and finally Chow.

"What happened?" Bud wanted to know.

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"Something made us pass out," Tom replied. "We were in a state of induced sleep."

Tom checked the rest of the spaceship's crew by intercom. All had revived.

"We're heading back to base," Tom reported to Fearing.

"Roger! . . . Keep in touch."

"Any idea what caused us to black out, Tom?" Hank inquired.

"Just a guess, but I'd say there's something about the Orb's electromagnetic emanations which induces unconsciousness," Tom said. "If that's the answer, there's nothing mysterious about it. Brain researchers have found it's possible to put people to sleep by electrically stimulating the basal forebrain-and doctors have used electrical anesthesia, too."

The astronauts were glum over the failure of their space expedition. To pass the flight time more quickly, they took turns napping.

Although it was after dark when the Challenger came down on Fearing Island, Bernt Ahlgren was waiting eagerly in Washington for Tom's report. The young inventor called him long-distance.

"Bernt, I think the best way to learn more about the Green Orb will be to send up an unmanned probe," Tom said.

"You mean rely on instrumentation?"

"Not exactly," Tom replied. "I'll design some robots that can get around as well as human spacemen and equip them with a new type of three-dimensional television I'm working on."

THE FRIGHTENED FROGMAN 57

When Tom explained what he had in mind, the government scientist was enthusiastic. "Get going on the project," Ahlgren urged. "You can regard this as official authorization, pending a contract."

"Okay, Bernt," Tom promised. "Your word is all we need."

Tom and Bud started back to Enterprises by helijet. As their Whirling Duck neared the mainland, Tom noticed the diner sign. It reminded him of the plan to keep watch for anyone coming to collect the data tapes. "Wonder if our lookout's had any luck?" he muttered.

Tom switched the radio to Enterprises' local frequency. "Skip to Hawkeye," he spoke into the mike, using the code names he had arranged with Ames for the operation. "Are you receiving?"

"This is Neil Forman. I read you, skipper," came the lookout's reply.

"Any action yet?"

"Nothing at all since last night."

"Okay. Just checking." Tom's face turned away from the microphone as Bud gripped his arm.

"Look! Down there!" Bud exclaimed, pointing.

In the moonlight Tom could see a dark figure crawling up the cliff face

overlooking the ocean. He checked speed and hovered down, aiming a powerful spotlight at the cliff.

The figure had disappeared!

"Where the dickens did he go?" Bud murmured. "He must be hiding in the brush."

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Tom radioed the information to Neil Forman, then landed quickly. The lookout came running from his hiding place to join them and all three dashed toward the cliff, armed with flashlights.

They probed their way down through the rocks and brush to the water's edge. Then they spread out and began climbing upward, examining every nook and cranny of the cliff face. But the trio could find no trace of their quarry.

"We missed him!" Bud exclaimed angrily as they met on the brow of the cliff.

Tom played his flashlight down the slope. "He couldn't just vanish into thin air. Maybe he—"

The young inventor broke off with a gasp as a figure suddenly emerged from the shadowy darkness of a clump of shrubbery on the cliffside.

"There he is!" Tom cried, pinning the figure in the yellow glare from his flashlight.

It was a masked frogman! The light revealed him in the act of attaching a large pouch to his diver's belt. He gave a startled backward glance, then darted to an overhanging rock and leaped far out into the water!

Bud would have dived in pursuit, fully clothed, but Tom stopped him.

"You can't catch him without diving gear!"

"He'll get away!"

"Not if I can help it!" Tom sprinted back to the Whirling Duck and radioed Fearing Island. He ordered patrol boats to take off for the mainland at once and make a coastal sweep. Tom also directed

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that his diving seacopter, the Sea Hound, begin a search with its aquatomic tracker. This device enabled the craft to trail a submerged object by detecting the minute chemical traces left in the water.

"What now, skipper?" Neil Forman asked.

"Ten to one that frogman came out of a tunnel," Tom replied. "Let's take a look."

The trio scrambled down the cliffside. They found that the shrubbery concealed an entrance to a narrow, timbered passageway. Tom took the lead with his flashlight. After following the tunnel for several hundred yards, they came to a small, brick-walled chamber. Bud spotted a light switch and flicked it.

"Wow! So this is their secret setup!" Neil exclaimed. "Must be right below the sign."

The chamber was bare except for a console of radio-recording devices. Tom examined the gear. "He must have removed the data tapes and installed new ones," Tom announced. "That's probably what he was carrying in his pouch." As they emerged from the tunnel, the Sea Hound came hovering into view in the night sky.

"Any luck?" Tom called over the walkie-talkie.

Mel Flagler, one of the Swifts' seacoptermen, reported, "That frogman went ashore down the coast, skipper. A car must have been waiting. We found tire tracks in the dirt road there. Anyhow, he's gone."

THE FRIGHTENED FROGMAN 61

Tom stifled his disappointment. "Okay. Thanks, Mel. Go ahead and secure." Bud and Neil Forman were as disgusted as Tom to think that the enemy agent had escaped.

"Well, it can't be helped," Tom said. "Want a lift back to Shopton, Neil?"

"No, thanks. I have a car."

Tom and Bud resumed their flight to Enterprises. Presently a green glow of light could be seen ahead, floating over the highway near the plant.

"Good grief!" Tom exclaimed. "I rate the dope-of-the-week prize, Bud!"

"How come?"

"That green balloon! If the revolving sign was a spy gimmick, this one may be too—I should have had Ames check it last night."

Bud's eyes widened. "Let's take a look!"

Tom slowed the helijet and swooped down toward the balloon. With a blinding flash and tremendous roar, the balloon suddenly exploded!

CHAPTER VIII

GALLEY SPOOK

THE blast buffeted the helijet like a sonic boom. Tom and Bud were half blinded by its brilliance. The wave of heat left them gasping.

Car drivers slowed in panic on the highway below as bits of debris rained down from the sky. Bone-jarring vibrations rattled the Whirling Duck as Tom struggled with the controls.

"Our rotors must be damaged!" he exclaimed.

Gunning the main jet, Tom zoomed the heliplane skyward. He radioed the tower operator at Enterprises:

"Telephone the Shop ton police and tell them that green sign balloon exploded. Ask them if they can divert traffic from the highway until Ames's men can investigate. This may involve a matter of national security."

"Wilco!" the tower responded.

Less than three minutes later the Whirling Duck came to a racing halt on Enterprises' field.

GALLEY SPOOK 63

"What do you suppose made the balloon go off?" Bud asked as they climbed

out of the helijet.

Tom shrugged. "A proximity fuse, maybe. Or the timing could have been coincidental."

"How so?"

"By now, the frogman's alerted our enemy. They may have figured we'd check the green balloon next, so they blew it up by remote control."

Tom jeeped to the security office and talked to Phil Radnor, Ames's blond, chunky assistant, who was on night duty. He told Radnor to send out a crew of men equipped with floodlights and mine detectors to search the highway and surrounding area for debris from the blast.

Next morning, Harlan Ames walked into Tom's private laboratory and found the young inventor examining a small harvest of fragments.

"What's the verdict, Tom?" Ames inquired.

"The balloon was definitely rigged with electronic equipment," Tom replied.

With tweezers, he picked up a tiny, transistor-like component.

Ames frowned. "What's that?"

"A gallium arsenide diode. It's used for modulating an infrared beam."

"Does that tell you anything?"

"The balloon may have been used to loft a concealed, long-range TV camera," Tom replied, "for snooping down over our plant walls."

"Where does the diode come in?" Ames asked.

"The picture signal could have been trans-

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mitted for miles by infrared beam, and neither Enterprises nor the FCC would have detected it."

Ames rubbed his jaw worriedly. "It's a cinch we're up against a clever and highly scientific enemy. If only we knew what they were after!"

"Did you check on Gus's partner?" Tom asked.

"Yes, and got nowhere. The named he used was Fred Flamm. He told Gus he was a businessman with money to invest—that he'd like to form a partnership and would put up cash to open a new diner at Fernwood, with Gus managing both places."

"The whole deal was just an excuse to erect that revolving sign," Tom reasoned. "Gus made a good front man."

Ames agreed. "And it must have been Flamm who sent Sturko and his partner around to ask for the job of erecting the sign."

"Does Gus have Flamm's address?" Tom inquired.

Ames reported that the mysterious partner had pretended to have an office in New York City. "But it turns out to be just a telephone-answering service. The people there have seen Flamm only once or twice and know nothing about him." After Ames left, Tom held a conference in his laboratory with Dr. Grimsey, Felix Wong, and Arv Hanson. All three had finished work on the gear Tom had

assigned them to develop. The telejector was tested, using space dust instead of
GALLEY SPOOK 65

the bioluminescent mist. Tom was delighted with the sharp three-dimensional
images.

The young inventor explained his plan to send robots to the Green Orb,
equipped with telejector cameras to transmit 3-D scenes back to earth.

"I'd like you men to start work on the robots right away," Tom went on. "I'll
show you the kind of cybernetic system I have in mind."

At noon Chow Winkler received a phone call in his galley. Tom asked him to
bring lunch for five to the conference room that adjoined the laboratory.

"Comin' right up, boss," Chow promised. "Crab-meat cakes an' peach pie
fresh out o' the oven!"

Crooning a cowboy ballad, the cook loaded a lunch cart and started off. He
found Tom and the other scientists busy discussing a sheaf of diagrams and
sketches.

"Chow's ready, pardners!" the Texan boomed. "Time to give your brains a
rest!"

Grinning, Tom, his colleagues, and Bud, who had joined them, turned their
attention to lunch. Chow chatted and joked with them. Finally he clumped out and
back down the corridor.

As he walked into the galley, Chow stopped short. A man was cooking on the
electronic range, his back turned to the door. He was built like a barrel and wore
levis and a Western shirt under his chef's apron.

Chow gaped in surprise. Then he felt a surge of

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anger. "Who does this hombre think he is?" Chow fumed. "Some nerve,
hornin' in on my galley, makin' himself right at home!"

Aloud Chow demanded, "Hold it, pardnert Jest who are you an' what're you
doin' here?"

The man went on cooking, paying no attention. Enraged, Chow rushed at
him. Just then the intruder turned to get something off a shelf. Chow's eyes
bulged.

The man had Chow's own face! In fact, to all outward appearances, the
intruder might have been Chow Winkler himself!

The real Chow let out a shriek at the uncanny sight. His hair felt as if it were
standing on end. The other man still paid no attention.

Ash white, Chow fled toward the door. "It's my ghost!" he screeched. "My
own ghost!"

The panicky cook came face to face with Tom and Bud. Both were convulsed
with laughter.

A sudden suspicion hit Chow. "Are you pullin' some scientific funny stuff?" he
thundered.

Tom choked down his merriment. "Sorry, pard-ner-we're guilty," he confessed.

"But," said Bud, "it was his idea."

"I figgered as much," Chow retorted darkly.

Still chuckling, the boys escorted Chow back to his galley. Tom showed him the 3-D telejector, concealed in a large wall cabinet. Bud had sneaked it into place and sprayed the galley with chemical mist while Chow was gone.

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"You mean that was jest a television spook image o* me I seen?" Chow asked in amazement.

"That's right." Tom grinned. "This gadget was projecting movies of you that Bud took secretly this morning with the Eye-Spy camera."

The Eye-Spy camera, an earlier invention of Tom's, could "see" through solid walls. Tom had altered it for 3-D video taping, and Bud had shot pictures of Chow working at his electronic range through the closed door of the galley.

"Wai, fry me fer an oyster!" the roly-poly Texan exclaimed. "Reckon this makes me the first 3-D television cowboy!"

Tom shut himself up in his laboratory for most of the afternoon. With his co-workers busy on the robots, Tom worked feverishly to perfect the light-image principle that he hoped to include in his telejector. It would make his 3-D system self-contained, with no need for outside luminescent particles to form the images. The answers to his circuit problems were seething in his brain. Tom felt so confident that he brushed aside his diagrams and calculations and began rigging a breadboard model.

"With a tetrode transistor in the oscillator, replacing a reflex klystron," Tom thought, "I'll bet I can step up my absorption frequency high enough to produce visible light at the wave terminal. And I can get color on this new system simply by modulating the wave-terminal frequencies."

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By five o'clock his model was taking shape and his workbench was littered with electronic components. Next morning was Saturday, but Tom returned to the plant, set for a weekend of hard work. In midafternoon he paused for a snack. A few minutes later Dr. Grimsey dropped into the lab. The bearded scientist looked exhausted and heavy-eyed, and his face was flushed.

"I have a problem here, Tom, on the ion-drive generator for the robots," he said.

Tom glanced over Dr. Grimsey's calculations and suggested a new solution.

"Say, do you feel all right?" Tom exclaimed as the elderly man leaned somewhat unsteadily against the workbench.

"Yes, quite all right. A bit tired." Grimsey removed his spectacles. His left hand, with the large mole, passed wearily over his eyes.

"You've been working too hard," Tom said. "Why not sit down and have a sandwich?"

"Thank you, but I ... I don't believe I ..." Dr. Grimsey's voice trailed off weakly. The next instant his eyes glazed. He swayed and would have fallen if Tom had not caught him!

"Good grief!" Tom muttered. "The poor guy's burning up with fever!" He settled the scientist onto a lab stool with his head slumped over the workbench, then phoned for the infirmary's ambulance, which took him away.

Twenty minutes later Doc Simpson called. "He's got a temperature of 105, Tom. No other symptoms that I can detect." The medic sounded

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puzzled. "I've given him an antibiotic. It's probably a virus."

"Okay. Thanks, Doc. Keep me posted." Tom hung up, somewhat worried.

It was almost six o'clock when Bud came bursting into the laboratory, wearing a white shirt, sport coat, and slacks. "Hey, genius boy! Don't tell me you forgot our double date?"

Tom looked at Bud blankly, then gave a sheepish grin. "Well, now that you mention it . . ."

The young inventor washed and changed clothes in the one-room apartment adjoining his lab. Then the boys picked up Sandy and Phyl and drove to the Colonial Inn for dinner. The girls still refused to tell what they had planned for the evening.

"But as I said before," Sandy added with a giggle, "Tom should find it very appropriate with that oversized brain of his."

After they left the inn, Sandy told Bud where to drive. Soon they came to a theater in Shopton. The brightly lighted marquee announced: the amazing lunario-world's greatest mind reader!

CHAPTER IX

LUNARIO'S WARNING

"A mind reader!" Bud chuckled as he turned into the theater parking lot.

"Listen, if the Great Lunario expects to read Tom Swift's mind, he'd better know calculus and computer language!"

"He's good!" Sandy insisted. "We were lucky to get him for this benefit show."

"Who's being benefited?" Tom asked.

"The Handicapped Children's Fund." Phyl explained that several local clubs were sponsoring the show. "There'll be some song and dance acts, too, but Lunario is our big attraction."

Soon after the four young people were ushered to their seats, the houselights dimmed, the orchestra started to play, and the curtains parted.

The show began with a gay revue. Then, to weird Oriental music, the Amazing Lunario came on stage. He wore evening clothes and a silk turban studded with a large emerald. An attractive young woman in a long, gold-

sequined gown accompanied him.

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Lunario performed several feats of magic, then invited two persons from the audience to blindfold him. A black felt pad was laid over his eyes and bound in place with a scarf.

"My assistant will now pass out cards on which to write any question you wish to ask me," Lunario went on. "Please raise your hand and she will give you a card and an envelope. Place the card in it with some small personal object. This will help me receive your vibrations."

The houselights were turned on as his female assistant came up the aisle. A plump, elderly woman raised her hand. Lunario's helper gave her a card and envelope. After writing on the card and enclosing something from her purse, the woman sealed the envelope and gave it back.

"Thank you very much," said Lunario's assistant. "Now please concentrate and form a mental image of what is in this envelope."

There was a moment of silence. Then Lunario said, "The person asking the question is a lovely white-haired lady in a blue dress." He added, "Will you stand up, please, madam?"

The elderly woman did so. There was loud applause as the audience saw that Lunario had described her correctly.

The mind reader went on, "The object in the envelope is a small gold pillbox." His assistant opened the envelope, took out a small object, and held it up. It was a gold pillbox! Again there was loud applause.

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"Now for the most difficult part," Lunario announced. He placed his fingers to his temples and seemed to go into a trance. Finally he said, "My dear lady, place your mind at ease. Your poodle will recover from his tummy ache."

The audience burst out laughing. Then Lunario's assistant opened the envelope and read the card: "Will my poodle Lancelot die from eating that whole box of chocolates?"

Thunderous handclapping filled the theater as the woman confirmed that this was her question.

"Hmm. Not bad," Bud remarked grudgingly.

The next volunteer was a short, bald-headed man with glasses. Lunario described him and the object he had placed in the envelope-a ballpoint pen. He also told the man that the speculative stock he had bought would rise in value.

"Isn't he wonderful!" Phyl murmured to Tom.

"It's a good act," the young inventor agreed.

"You don't sound very impressed."

Tom chuckled. "Well, his method's not very hard to figure out."

Sandy, who had overheard this, made a face at her brother. "Oh, is that so,

smarty?" she hissed teasingly. "I know you're a brilliant inventor, but I never knew you'd taken up mind reading."

"Maybe I'll try," Tom replied with a grin.

A red-haired girl was the next to volunteer. While she wrote out her question, Tom, who was seated next to the aisle, took something from his pocket. Then he propped his elbow on the chair

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arm and leaned his head against his fist as if bored with the whole proceedings.

"She put a lipstick case in the envelope," he informed Phyl.

Tom's statement proved to be correct!

"How did you guess?" Phyl exclaimed, wide-eyed.

Tom merely smiled. "And she wants to know if she'll be going to the June Prom with her favorite date."

Again Tom was right! Lunario assured the girl she would attend the prom with the boy of her choice.

"Tom Swift, you tell us right this minute how you guessed!" Sandy demanded in a loud whisper.

"Lunario's assistant can see the object being placed in the envelope," Tom replied. "And when she opens the envelope to show the object to the audience, she can peek at what's written on the card. All she has to do is signal her boss."

"How does she do that?" Bud queried.

"By tapping Morse code with the toe of her shoe. It evidently contains a tiny transmitter and Lunario has an earphone inside his turban."

"But how on earth could you hear?" Phyl asked.

Tom grinned and opened his fist. Inside was his pocket pencil radio. "All I had to do was find the right frequency," he explained.

As the young woman worked her way up the aisle, she paused opposite Tom's seat.

LUNARIO'S WARNING 75

"Ah! I believe the famous young inventor, Tom Swift, is in our audience!" Lunario exclaimed.

There was a burst of applause and Tom had to take a bow. Then Lunario offered to read his mind. Tom good-naturedly wrote a question and enclosed it in an envelope with his wristwatch.

Lunario identified the watch and went on, "You wish to know if your next space flight will be successful. As I peer into the future, I see—"

Suddenly the mind reader's voice choked off. His face contorted in a spasm of terror as he croaked, "No! . . . Oh, no! . . . Tom Swift, your life is in terrible danger!"

Lunario tried to go on but seemed unable to speak. He clawed at his blindfold, then staggered backward and collapsed!

The audience gasped. In a moment the theater was in an uproar. Tom hesitated for an instant, then dashed down the aisle to the stage, with Bud following. The theater manager, white-faced and anxious, came hurrying from the wings.

"P-p-please be calm, ladies and gentlemen!" he exclaimed. "Lunario appears to have fainted, but I'm sure he'll be all right. If you'll remain seated, we'll go on with the next act!"

The lights dimmed and the orchestra began playing as Tom and Bud carried Lunario to his dressing room, guided by the manager. A doctor came from the audience to examine the performer.

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"Nothing serious, apparently," the medic reported. "He seems to have undergone a nervous shock, but his pulse is returning to normal."

Later, Lunario was reviving when a knock was heard at the door. Outside stood Sandy and Phyl, who had come backstage to join the boys.

"Is he all right?" Sandy asked anxiously, glancing at the figure on the couch.
"The doctor thinks so," Tom murmured.

Presently Lunario opened his eyes. After sipping some water, he stared at Tom. "I still can't understand it," the performer muttered.

"You mean, what happened on stage?" Tom asked.

Lunario nodded and frowned. "I'm going to tell you the truth," he said. "I'm not psychic. My mind-reading act is a stunt. It depends on-well, on an arrangement with my assistant."

"I know-she signals you by radio," Tom said.

"Yes. I suppose it was easy for a scientist like you to guess it. As a matter of fact, I've taken ESP tests-that is, tests for extrasensory perception- at a university parapsychology lab and I've scored unusually high. So perhaps I am somewhat psychic. However, my mind reading depends on trickery."

"I understand," Tom said. "Please go on."

Lunario frowned again and rubbed his forehead. "The strange thing is, when I started to answer your question out there, I suddenly began to receive some kind of message. I had a terribly

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strong impression of an outside force threatening you-that's what frightened me. Believe me, I think your life is really in danger!"

"I see." Tom stared at Lunario thoughtfully. "Well, thank you for telling me." Sandy and Phyl both looked worried as they left the dressing room with the boys.

"Jeepers! I don't like this!" Sandy murmured. "You don't suppose his warning could be true?"

"Fat chance," Bud scoffed. "I'll bet the whole thing was a publicity gag. Ten to one there'll be a write-up in the Bulletin tomorrow and a big interview with

Lunario!"

"What do you think, Tom?" Phyl asked.

The young inventor shrugged. "I can't help feeling Lunario was on the level. But that's just a hunch. He may be a phony—or a nut."

Soon the show's final number was over. The audience filed out and the orchestra left the pit. People stopped to chat in the lobby, and Sandy and Phyl paused to speak to some friends.

A pretty black-haired girl behind the candy counter caught sight of Tom and his companions. She waved and pointed to Tom Swift.

Bud nudged him. "Hey, pal, that doll behind the counter wants your autograph or something."

"I'm not sure I like that," Phyl said, pretending to be jealous.

Tom grinned and squeezed her hand. "Pay no attention to this joker. Be back in a second."

He walked over to the candy counter.

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"You are Tom Swift, aren't you?" the girl said. When Tom nodded, she went on, "Someone at the Swift Construction Company just telephoned the theater and left a message. He wanted you to call their plant switchboard operator as soon as the show was over. He said it was urgent."

Tom was startled. "Did you get his name?"

"No, I'm sorry, he hung up too quickly."

"Must be Uncle Ned," Tom thought. "I wonder what's up?" Ned Newton, Phyl's father, was an old chum of Tom Sr.'s. He now managed the Swift Construction Company, which manufactured the inventions developed at Enterprises.

"You can call from the office," the girl said.

"Thanks." Tom entered the room behind the counter and tried to dial the construction company. But the telephone seemed to have gone dead. He returned to Bud and the girls and explained. "Mind waiting a minute? I'll call from, that booth inside."

Tom headed for a phone booth situated in a corner area behind the seats.

Minutes went by. The lobby began to empty.

"I'd better go yank genius boy off that phone," Bud quipped. "When he gets into a scientific powwow, he forgets the time."

Re-entering the now darkened theater, Bud saw a light glowing in the phone booth. Tom was seated inside, his head leaning against the box. He looked as if he were listening intently.

LUNARIO'S WARNING 79

Bud rapped on the glass. "Hey, cut it short, professor!"

Tom made no response. Bud became aware of a low ticking noise. He started to rap again.

Suddenly Bud's eyes widened. The telephone handset was on the hook! Then he noticed a red trickle dripping from his friend's head! Tom was unconscious!

"Good grief!" Bud tried to open the door, but it refused to budge more than an inch. Tom was braced in such a way that his leg was jamming the door shut! Meanwhile, the sinister ticking continued. Bud was frantic. "There may be a time bomb in there!"

CHAPTER X NIGHT VISIONS

AS Bud tugged desperately at the phone-booth door, the manager emerged from backstage.

"Clear the theater!" Bud shouted. "And call the police!" As the manager hurried toward him, Bud hastily explained the situation.

"But what about the bomb?" the horrified manager stammered. "You two will be!"

"Never mind that! Get everyone out of here!"

The manager dashed off. Bud pried the door open a little farther and slipped an arm inside. Tom opened his eyes groggily.

"Tom! Snap out of it!" Bud grabbed the young inventor and jerked him up.

"Come on, pal! Get moving! There's a bomb in there!"

Tom quickly collected his wits and staggered out. Bud spotted a metal box under the seat.

"There's the bomb!" he exclaimed. "Let's get out of here!"

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NIGHT VISIONS 81

"Turn up the houselights on the way out if you can find the switch," Tom said coolly.

Bud gaped. "What about you?"

"Go on-do as I say!" Tom was already on his knees, opening the box.

Bud ran to obey orders, but then returned. Tom's forehead was glistening with perspiration. In a few moments he succeeded in disarming the bomb and stood up, heaving a sigh of relief.

"Whew!" Bud suddenly realized his own legs were trembling. "Are we still in one piece?"

Tom chuckled. Before he could reply, the whine of a police-car siren announced the arrival of the police. The boys hurried to the lobby.

Two officers dashed in. Tom reported that the bomb was disarmed and told how he had been summoned to the phone.

"Just as I was stepping into the booth," Tom went on, "someone conked me. Whoever did it must have been hiding in the shadows-probably behind a floor sign. Next thing I knew, Bud was trying to pry me out."

One of the officers frowned. "Funny the phone in the manager's office

wouldn't work."

"The outside wires must have been cut," Tom said.

"We'll check," the officer promised. "And you'd better have that injury attended to."

Tom had been holding a handkerchief to his head and the bleeding appeared to have stopped. The theater manager applied a bandage from the

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first-aid kit in his office. Meanwhile, Bud reassured Sandy and Phyl, who had been waiting anxiously outside among the crowd of spectators.

The policeman who had gone to check the telephone wires reported that Tom's guess was correct. Meantime, his partner had been questioning the manager and the candy clerk.

Tom surmised that his assailant had trailed the young inventor to the theater and followed him inside.

"When Bud and I went backstage with Lunario, he seized his chance," Tom theorized. "He was gambling that we'd return to our seats and stay till the show was over. So he called the theater number from the phone booth and left a fake message. Then he slipped outside and cut the wires to make sure I couldn't call back from the office."

"And he could easily slip back in again to plant the bomb once the exits were thrown open and people began streaming out of the theater," Bud added.

Tom nodded. "After that, all he had to do was hope his plot worked."

"It almost did!" Phyl murmured shakily.

"But not quite-thanks to Bud," Tom said with a reassuring smile. "Incidentally, the guy must have been carrying the bomb around with him, just waiting for a chance to plant it."

"You were mighty lucky it didn't go off," one of the policemen commented.

Tom contacted Enterprises Security over his

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pencil radio and reported the incident. He also asked Radnor to call the Swift Construction Company. Radnor soon radioed back that the message had been a fake, as Tom suspected.

On the way home the teen-agers stopped off at the house of Dr. Emerson, the Swifts' family physician. He dressed Tom's head cut and said that the injury was not serious. "But stay quiet for the rest of the weekend," the medic advised. Next day, Tom telephoned the Enterprises infirmary to inquire about Ethan Grimsey's condition. Doc Simpson reported that the scientist was in a coma, and his fever still high.

"We've run all sorts of tests on him, skipper, but so far they haven't revealed any specific disease factor. Frankly, I'm stumped on the diagnosis. We're checking back into his medical history and I'm calling in two specialists."

"Good. I'm sure you're doing everything possible," Tom said.

On Monday morning Harlan Ames dropped into Tom's laboratory to discuss the bomb mystery.

"Any leads?" the young inventor asked.

"Nothing. Not even prints on the bomb parts." Ames scowled gloomily. "This thing could have been a follow-up to that threatening letter. But we have no leads on that, either."

"It's queer how this bomb attempt should happen right after Lunario warned me I was in danger," Tom mused.

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"Well, here's something else that's queer-or fishy," Ames said. "That bomb wouldn't have exploded, anyhow."

Tom was startled. "Are you sure?"

"Positive. There was a loose electrical contact in the detonator. Another thing, why did the guy set such a long delay on the timer?"

"The loose contact could have been accidental," Tom reasoned. "And the delay would give him more time to get out of the theater safely."

"Also more time for you to be found in the booth with the bomb ticking," Ames pointed out.

Tom frowned and mulled over this. "Let's get this straight, Harlan. Are you suggesting the bomb was intended to be a dud-and that Lunario may have arranged the whole business?"

The security man shrugged. "Why not? It adds up to a big publicity stunt. The news stories make Lunario sound like a psychic genius."

"Are the police working on that angle?" Tom asked.

"Sure. They've questioned Lunario and his assistant, but both deny knowing about the bomb." Ames added wryly, "I'll have to admit they sound as if they're telling the truth."

There was a knock. Felix Wong opened the door of the lab. The black-haired, almond-eyed young engineer, who was known at the plant for his jolly, pleasant ways, looked somewhat troubled.

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"Am I interrupting a security conference?"

"No, come on in, Felix," Tom said.

Ames grinned and got up to go. "I'll leave you two to your scientific gobbledegook and get on with my sleuthing."

"Wait a minute, Harlan," Felix Wong said. "Maybe you should hear this, too."

Ames glanced at him. "Anything wrong?"

"I don't know. Something odd happened last night. With all the confidential work we do at Enterprises, I thought I should report it."

"What happened, Felix?" Tom asked.

"Someone broke into my apartment."

Ames's eyes narrowed. "Was anything stolen?"

"No, that's what seems so funny. There were Valuables lying out in plain sight-my wallet, some Chinese jades, an expensive miniature camera-but nothing was touched."

"How about scientific data?" Tom inquired.

"Well, I had some problems jotted down that I was setting up for computer programming," Felix said. "They were in a briefcase, but apparently that hadn't been touched, either."

"What makes you so sure someone broke in?" Ames asked.

"For one thing, the door lock had been jimmied. You can see the scratch marks on the metal. Also, the inside latch chain was hanging loose, and I remember fastening it last night."

Both Tom and Ames were as puzzled as Felix by the incident, but none of them could offer any

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explanation. Ames promised to send a security man, however, to dust the apartment for fingerprints.

Tom worked throughout the morning on the light-image circuitry for his telejector. At noon Chow brought in a tray of lunch. As Tom ate hungrily, the stout Texan produced a postmarked envelope from the pocket of his gaudy red cowboy shirt.

"Got a letter here I'd like you to read, boss. It's from a sheepherdin' friend o' mine over in west Texas, name o' Pedro Uzcudun."

"Uzcudun? Is that a Basque name?" Tom said.

"Yup, that's right." Chow explained that the Basques were so skillful at tending sheep that many came to the United States from their homeland in the Pyrenees Mountains between Spain and France to take jobs as sheepherders in the Western states.

Tom skimmed through the opening of the letter. His forehead wrinkled with interest as he read:

The reason I am writing to you, amigo, is because you are now working at Swift Enterprises. Something most strange has been happening to me. You know I spend many lonely nights with my flock up in the hills. Well, lately, I have begun to get messages and visions in my mind about Tom Swift. It is almost as if they are coming from the stars.

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/ am sure I am not crazy, but people will think so if I tell them and I am worried. Maybe it has something to do with radio. Please ask Tom Swift if he can explain.

Your friend, Pedro Uzcudun

Chow looked somewhat embarrassed. "Mebbe it's jest plumb foolishness," the cook said, "but I figgered I ought to show it to you."

Tom rubbed his jaw thoughtfully. "What sort of a guy is this Uzcudun, Chow? Is he a sensible person?"

Chow nodded vigorously. "Yes, he is, Tom. I don't cotton much to sheepmen, but Pete's as nice an' level-headed an hombre as I ever met."

Tom frowned. "In that case, it may not be foolish after all."

"Then you think he ain't tetched?"

"Chow, I may be tetched in the head, myself, but that letter has just given me a wild hunch."

Before Tom could explain, the door of the laboratory burst open. Bud Barclay came striding in. The young copilot looked upset. "Have you heard about Felix Wong, Tom?" he asked.

"What about him?"

"He's just been taken ill. Had to be rushed to the infirmary. Doc Simpson says it looks like the same thing that hit Dr. Grimsey!"

CHAPTER XI

BRAIN-WAVE RADIO

TOM and Chow were very much upset to hear of Felix's sudden illness.

"Have you seen him, Bud?" Tom asked.

"Yes, I was with Felix when he keeled over. By the time the ambulance arrived, he was out like a light."

Tom called Doc Simpson at once for the latest word on Wong's condition.

"Same symptoms as Dr. Grimsey's," the medic reported worriedly. "A sudden onset of illness with a loss of consciousness and a very high fever. There's not much else I can tell you at this point, skipper . . . but I do have good news about Grimsey."

"Let's hear it! I can stand some."

"He came out of his coma early this morning and his temperature is back to normal. I'd say he's definitely on the mend."

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"I'm sure glad to hear that," Tom said. "Let's hope Felix recovers just as quickly."

Chow brought lunch for Bud. While they ate, Tom discussed the letter from Uzcudun.

"What's this wild hunch you were goin' to tell me about, boss?" Chow inquired.

"It's so wild I'm afraid you two will think I'm nutty," Tom confessed.

Bud grinned. "Listen, genius boy, you dream up wild ideas all the time. This one shouldn't faze us."

"Okay, you asked for it." Tom slipped off his lab stool and started pacing back and forth. "To begin with, Uzcudun is the third person in a week who has told me about picking up strange mental messages. First there was a guy named

Joe Mulver, then Lunario the Mind Reader, and now this Basque shepherd." "Who's Mulver?" Chow put in.

Tom related how Mulver had come to Enterprises and then to the Swifts' home. "Uzcidun thinks the messages may be coming from the stars," Tom went on, "and Mulver claimed his were coming from outer space, probably from the Green Orb."

Bud frowned. "A goofy coincidence."

"That's not all," Tom said. "The waves picked up by radio telescope from the Green Orb seem to resemble human brain waves. So far, nobody can explain why."

"Can you?" Bud challenged.

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"I warned you this would sound nutty," the young inventor replied, "but suppose those Orb waves are being beamed to earth in an attempt to communicate with human beings."

"Wow!" Bud's eyes lighted with interest. "You mean the messages Uzcidun and Mulver and Lunario have been receiving are caused by the same signals being picked up by radio telescope?"

"Right-at least it's one possible answer," Tom said. "Since the signals have the form of human brain waves, they may be a way of inducing thoughts or mental images in a person's mind, just as broadcast signals are induced in an antenna. In other words, if there are living creatures on the Orb, they may know how to communicate by a kind of radio telepathy that's unknown to scientists here on earth."

"Brand my cactus cupcakes, that's plumb remarkable!" Chow exclaimed.

"And an hombre like Pete Uzcidun, what sits up in the hills by himself night after night, would be jest the sort o' person to pick up them signals from space."

"What about Lunario and Mulver?" Bud objected.

Tom shrugged uncertainly. "Lunario claimed he'd been tested in a parapsychology lab and—"

"What kind o' place is that?" Chow interrupted.

"A laboratory where they do research to find out if telepathy and other kinds of thought transference can really take place. They call it ESP."

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Lunario said he scored high. Maybe Mulver is gifted the same way."

Bud reviewed Tom's theory as he finished his apple turnover. "Sounds pretty far out, but it sure is interesting," he mused. "What do you intend to do about it, Tom?"

"For one thing, I'd like to do some experimenting with Uzcidun," Tom replied.

"And while I'm at it, I think I'll make another attempt to contact our space friends."

The young inventor and Bud jeeped to the space communications lab, and Tom again beamed out a message to the space creatures. This time, the

translator brain remained completely silent.

Bud said after a while, "No dice, eh?"

Tom shook his head. "I guess not. I sure wish I knew why we can't get through to them. Let's go."

Tom dropped Bud off at one of the airfield hangars, since the young flier had a flight test scheduled. Then he drove thoughtfully back to his private laboratory and called Miss Trent. He asked her to put through a long-distance telephone call to Pedro Uzcudun.

Presently Miss Trent called back. "The ranch house is on the line," she reported, "but the owner says Mr. Uzcudun is up in the hills and it may take some time to get him to the phone."

"Okay. Ask him if he'll have Mr. Uzcudun call the operator as soon as it's convenient."

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After hanging up, Tom dialed Harlan Ames and asked him to try to trace Joe Mulver.

"Any idea where he lives?" Ames inquired.

"No, but he came to the plant last Monday and then showed up at our house the next morning. Said he came a long way to see me, so he probably stayed in or around Shopton overnight. You might try checking the motels."

With both Dr. Grimsey and Felix Wong ill, Tom realized he would have to take over most of their work on the probe robots. "Which means I'll first have to get the telejector perfected-and in a hurry," Tom thought ruefully.

In midafternoon, while he was at work with a soldering gun and a tangle of electronic parts, the telephone rang. Pedro Uzcudun was on the line. Tom greeted him eagerly.

"Thanks for coming so far to answer my call."

"It is an honor that the famous Tom Swift should wish to talk to me," Uzcudun said. "You perhaps have seen my letter to Chow, no?"

"That's right, and I'm very much interested in those messages you've been picking up. Could you come to Enterprises so we can experiment and try to learn more about them?"

Uzcudun was greatly pleased at the young inventor's interest. He said another man at the ranch could tend his herd for a few weeks and that he could leave for Shopton any time.

"Good! I'll send a plane to pick you up at the ranch tomorrow morning," Tom said.

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Driving home, Tom passed Gus Miller's diner in Shopton. The restaurant had a flashy new front and displayed a big neon sign: The Green Orb, No.1.

"Pretty snazzy," Tom thought with a grin. "I wonder if Gus has heard from his

partner!"

Tom rounded the corner and pulled into the parking lot. It was the beginning of the evening rush hour and the diner was filled with customers. Gus Miller, a tall, skinny man with a prominent Adam's apple, was busy at the cash register. In place of his usual apron, he now wore a smart green uniform jacket.

"Hi, Gus!"

At the sight of the young inventor, the diner owner's homely face broke into a pleased smile. "Hi, Tom! Now don't go sittin' at the counter. Lemme clear a place in that empty booth."

"I can't stay long," Tom said. "Just came in for a cup of soup."

"Don't matter. You rate special service."

As soon as he had a spare moment, Gus returned to the booth to chat. Tom asked, "Have you had any word from Fred Flamm?"

"No, an' I don't expect to. That sneaky rat! I'm sure sorry, Tom, about all that spy stuff."

"Forget it. I doubt that they learned much."

Gus's face became glum. "To tell the truth, I wish I'd never let him talk me into openin' that new diner at Fernwood. Whole thing's a headache. I don't even know what's goin' to happen to it now

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that Flamm's dodgin' the law. He put up most o' the money it cost."

Tom sipped his clam chowder thoughtfully. Maybe the diner at the coastal town across from Fearing could still provide a lead to his enemies. "Gus, please try to keep your new place running," the young inventor urged. "It may pay off for you-and for us, too, in clues."

"Okay, if you say so, Tom." Suddenly Gus brightened. "Say, when you mentioned clues jest now, that reminded me o' somethin'!"

Gus got up from the booth and hurried into the back room. When he emerged, he was polishing something with a dish towel.

"Flamm left this on the counter one day an' I forgot all about it when Mr. Ames an' the police was here." Gus handed Tom a cigarette lighter shaped like a tiny automatic pistol. "I got it greasy back there in the kitchen, but I guess it's all wiped off."

"Well, there goes any chance of fingerprints," Tom thought wryly. He snapped the flame on and off, then turned the lighter over. Suddenly he noticed a letter Q stamped in the metal on the bottom-the same letter Sturko had scrawled! "Thanks a lot, Gus." Tom slipped the lighter into his pocket. "This may be important."

The next morning Tom arose before the rest of the family, and cooked his own breakfast. He was just setting the dishes in the sink when the telephone rang. The caller was Arv Hanson.

"Sorry to bother you at this hour, skipper," Arv apologized, "but I ... I feel terrible. . . . Could you give me a lift to the infirmary?"

His voice sounded so weak that Tom was alarmed. "Stay put, Arv-in fact, get back to bed. I'll be there in a jiffy!"

He phoned Doc Simpson, then dashed out to the garage and was soon speeding off in his sleek silver sports car. Arv Hanson lived by himself in a cottage on Lake Carlopa. Doc arrived there by ambulance moments after Tom. While the medic hurried to examine the sick man, Tom went outside to wait. Suddenly his eye was caught by footprints in the soft ground beneath the window. Curious, Tom studied the prints. Then he noticed deep scratch marks on the window.

"As though it had been forced open with a tool," he thought, startled. "By an intruder, maybe?"

Tom hurried inside to the bedroom. Arv, though weak and feverish, was still conscious. He and Doc Simpson listened to Tom's report.

"Any idea what an intruder would be after, Arv?" Tom inquired.

Doc spoke up grimly. "I can answer that."

CHAPTER XII

A MYSTERIOUS INTRUDER

TOM was startled by Doc Simpson's unexpected reply. "Have you found a clue?" he asked.

"Sniff the air in here," Doc countered.

As Tom inhaled he detected a faint etherlike odor. "Good grief! Some kind of anesthetic?"

"Chloroform," Doc said. "Now look at this."

He raised Arv Hanson's arm and pulled back the pajama sleeve, revealing a tiny skin puncture.

"A needle prick!" Tom exclaimed. "That means he has been given a hypodermic injection?"

"Right." Doc said he had stopped in earlier that morning to see Felix Wong. "I noticed something I hadn't yesterday-a very small puncture mark on his arm. I phoned his personal physician, who said Felix had been in for a checkup two days ago, but had received no injection. This puzzled me, and I was about to look into it further when you called. The instant I smelled chloroform here, the connection hit me-so I checked Arv's arm. The

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symptoms are identical, which means the same type of injection was used."

"In other words, someone broke in while Arv was asleep," Tom said,

"chloroformed him so he wouldn't wake up, then jabbed in the needle."

"Right. The injection probably contained some kind of drug or disease serum that doesn't show up under ordinary methods of analysis."

Tom's jaw clenched angrily. "Your theory sure adds up, Doc. Felix reported yesterday morning that someone broke into his place. And the same thing must have happened to Dr. Grimsey."

Arv's eyes were becoming glassy and heavy-lidded. Doc summoned the ambulance attendant to help transfer Arv to a stretcher.

Tom, meanwhile, telephoned Harlan Ames. The security chief soon arrived at the cottage with two of his staff, who began checking immediately for clues. "Any ideas about this?" Ames asked Tom.

"It's a cinch Dr. Grimsey and Felix and Arv have all been victims of the same plot," Tom said. "And there's one connecting link-they were all working with me on the 3-D telejector."

Ames gave Tom a worried glance. "You realize what that means, skipper? You could be next!"

"If that enemy is determined to stop me from perfecting my new TV system," Tom countered, "why hasn't he already tried slipping me some of those disease germs?"

"Maybe he has tried," Ames shot back. "But

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since your house has a foolproof alarm system, he tried to get you with a bomb."

"Then you no longer think the bomb was just a stunt by Lunario to get publicity?"

Ames frowned. "No, not after what has happened to your three assistants."

Tom shook his head. "The bomb plot was pretty crude by comparison. I don't think it was the work of the same enemy. He could have used a needle then and there."

"You could be right," Ames said. "But I'm still going to double the security guards."

Tom had detailed Bud to make the flight to Texas, and Chow Winkler had asked to go along. They had already taken off in the Sky Queen when Tom arrived at Enterprises. The huge supersonic plane-atomic-powered and equipped with lifter jets-had been Tom's first major invention. It was equipped for scientific research and was often called the Flying Lab.

Tom plunged into work, knowing that the burden of readying the TV space probe now rested on him. He completed his light-image circuitry and tested it in hookup with the telejector. It worked fairly well, but Tom was not satisfied with the quality of the three-dimensional images.

"Too dim for daylight viewing," he thought. "I'd better step up the amplification."

Later there was a call from the airfield tower. "The Sky Queen just landed, skipper."

"Great! Thanks, Art." Tom alerted Doc Simp-

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son, with whom he had discussed his plans for making experiments with the Basque shepherd. Then he drove out to the field to meet his guest.

Pedro Uzcudun was a short, stocky man with a deeply tanned face. His shirt was open at the neck and he wore a black beret.

"A great pleasure to meet you," the Basque said, squeezing Tom's hand in a powerful grip.

"I appreciate your coming here all the way from Texas, Mr. Uzcudun," Tom replied.

"Pedro will do-or better yet, Pete."

"Thanks. And call me Tom, please."

"I'll call you both ring-tailed snorters if you kin learn how to tune your heads like a radio!" Chow broke in.

"We're going to try." Tom chuckled. He drove his guest to the infirmary to meet Doc Simpson.

After chatting with Uzcudun, Doc said, "We have a room all ready for you, facing the sun deck. Perhaps you'd like to see it."

When Uzcudun said he would, Doc Simpson led them to a spacious, comfortably furnished room on the top floor. Near a reclining easy chair stood a small machine, studded with dials and knobs and mounted on a wheeled stand.

"This is an electroencephalograph," Doc said.

The Basque shepherd smiled apologetically. "Beg pardon, senor-I do not understand."

"The human brain generates small electrical currents," Doc Simpson explained. "This machine picks up and amplifies those currents and shows A MYSTERIOUS INTRUDER 101

them on this scope. Suppose we try it. Please sit down."

He pasted two small electrical leads to the shepherd's temples and switched on the machine. A flickering sine wave of light appeared on the scope.

"This is the pattern of current your brain is generating now. It's called the alpha rhythm."

"Most amazing!" Uzcudun murmured, wide-eyed.

Tom explained, "Whenever you receive one of those messages or visions in your head, Pete, we'll record the wave pattern. With luck, we may be able to relate the message to the pattern-and maybe in time we can tell what's passing through your brain just by watching the scope."

"Ah! Like reading a secret code, eh?"

"Exactly," Tom said. "These messages may be coming from the Green Orb.

The national radio telescope in West Virginia is being kept tuned to it. Once we crack the code, we might read a meaning right from the Orb's wave graphs."

Uzcudun was excited by the chance to help on such important work. Tom gave his guest a brief tour and described his plans for a television probe of the

Green Orb. After lunch they rejoined Doc Simpson at the infirmary.

"Let's test your reception now," Doc said.

The reclining chair and electroencephalograph were moved out to the sun deck. Doc attached sixteen wires to the man's temples and scalp, and
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flicked a switch to record the waves from various parts of the brain on inked tapes, called electroencephalograms or "EEC's" for short.

For half an hour Pedro sat quietly in the chair and tried to attune his mind to pick up more of the strange messages and visions that had come to him in the Texas hills. The results were a blank.

"I am sorry, senors," Uzcudun apologized.

"Don't worry-we can't expect you to turn your reception on and off like a tap. But Doc and I will come at once and record your brain-wave patterns any time you start to 'receive!'"

"By the way," Tom added, "what did your other messages or visions consist of?"

"I do not like to tell you, Tom, but it seemed as if someone out in space were speaking to someone on earth-plotting trouble for you. Once I seemed to see or hear the letter Q."

Tom and Doc Simpson exchanged startled looks, but said nothing to Uzcudun. Before leaving, Tom inquired about Dr. Grimsey and his other ill associates.

"Dr. Grimsey's thin and run down from his illness but otherwise completely recovered," Doc said. "I may release him from the infirmary today."

"I'm sure glad he pulled through," Tom said. "Okay if I stop in and say hello to him?"

"He's napping. Better not disturb him. By the way, you know how absent-minded he is-"

Tom chuckled. "I think he keeps his hearing

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aid turned down on purpose sometimes so people won't disturb his thoughts."

"Well, this illness probably hasn't improved his memory, so you may have to be a bit patient with him." Doc added that Felix Wong and Arv Hanson were both in serious condition.

Tom jeeped back to his laboratory, his thoughts on the disturbing events of the last few days. Uzcudun's report seemed to bear out Lunario's warning of danger. Again the letter Q had cropped up! Could Tom's enemies be engaged in some kind of project connected with life on the Green Orb?

Pushing the problem to the back of his mind, Tom finished work on the light-image circuitry for his telejector. It tested out perfectly, producing sharp, clear-colored images that looked amazingly real. Pleased, Tom called Dave Bogard, a

Swift electronics engineer, and showed him the breadboard model. "Copy this in printed circuitry that can be installed in the telejector," Tom told him.

"Sure, skipper. Right away."

Late in the afternoon Bud Barclay wandered into the laboratory as Tom was working on the TV cameras to be installed in his probe robots.

"Those rocket tubes you ordered for the Orb shot are on their way to Fearing Island," Bud reported. "Got another job I can do for you, pal?"

Tom groped in the pocket of his sport coat,

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which had been flung over a workbench nearby-, and pulled out Fred Flamm's cigarette lighter.

"Where'd you get this?" Bud asked.

"From Gus Miller. It belonged to his partner." Tom explained the hunch that had come to him the night before. "The new diner at Fernwood may serve a double purpose. Our enemy may expect that a lot of our rocket crewmen will eat there and members of the gang can pick up information."

Tom showed Bud the letter Q stamped on the lighter and added, "Maybe all the gang carry these lighters as identification. If you hang around the diner and let people see this, you might stumble onto something."

"Hey! That's an idea, Tom!"

Bud drove to the diner in Fernwood and ordered dinner. As he waited to be served, he toyed with the lighter. The diner soon filled with people, many of them crewmen from the Fearing Island base. But Bud noticed no one who looked suspicious.

Bud ate his meal slowly. A young rocketeer, Bob Jeffers, came up to his table. "Hi, Buddy boy! Mind if I join you?"

"My pleasure, pal. Sit down."

After finishing his meal, Bud lingered and began to toy with the lighter which lay on the table. Bud flicked it on and off as he chatted with Bob. His eyes strayed about the room.

Suddenly a stranger in a booth nearby noticed

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the lighter. Bud saw a startled look come over his face. The man was huskily built, had wavy dark hair, and wore an unzipped leather jacket.

Bud watched him and kept fingering the lighter. The man glanced up and met Bud's eyes. He flushed, got up abruptly, flung some coins on the table, and strode out of the diner.

Bud stood up, too, and counted out money for his check. "Listen, Bob, there's no time to explain. Call Tom Swift! Tell him to get here fast- I think I've spotted someone and I'll try to delay him!"

Bob Jeffers was left gaping in surprise as Bud hurried outside. Darkness had fallen, but the green neon sign and lighted windows shed a glow over the area.

Bud saw the stranger lounging against a car in the diner parking lot. He watched as Bud strode up to him, then took out a cigarette. "Got a light, Mac?"

Bud took out Fred Flamm's lighter and snapped it on. As the man bent his head, he muttered, "What're you doing here with that lighter?"

Bud said boldly, "I know all about the Green Orb, pal."

The man seemed startled. "Just how much do you know?" he demanded.

Groping for a quick answer, Bud said, "It's a good place to eat-and hear things."

The stranger appeared to relax at this reply and burst into a mocking laugh.

Bud realized he had

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said the wrong thing. He tensed for the stranger's next move-but not fast enough.

With the speed of a striking rattler, the man's fist jerked out of his jacket pocket. A brass-knuckled uppercut caught Bud on the chin and he crumpled to the ground unconscious!

CHAPTER XIII

INVITATION TO DANGER

TOM was working late in his lab when he got Bud's message. "Thanks, Bob-I'll get there pronto!" he told the rocket crewman.

Tom took off in an atomicar and flew to Fern-wood. Swooping down on the Green Orb restaurant's parking lot, Tom jumped out and strode toward the garishly lighted diner. His eyes roved in search of Bud and the man Jeffers had described.

Suddenly Tom stopped with a gasp. A body was lying in the shadows between two parked cars!

Heart pounding, Tom dashed toward the still figure. Bud stirred and moaned faintly as the young inventor bent over him.

Tom hurried back to the car and returned with a flashlight and first-aid kit.

Squatting down, he examined his friend. The glow of light revealed a black-and-blue swelling on Bud's jaw.

Then Tom saw something else. A small square 107

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of cardboard showing a bright-green globe was lying on the youth's chest. It had been torn from a matchbook advertising the Green Orb diner!

Tom slipped an arm under Bud's head. The copilot's eyelids flickered. Tom waved spirits of ammonia under his friend's nose and soon Bud was able to sit up.

"Wow! ... Is my jaw still in one piece?"

"Seems to be. Who clipped you?"

Bud looked sheepish as he told his story. Tom was puzzled over the man's

laughter at Bud's reply to his query about the Green Orb.

"That sounds as if he was afraid you knew something, Bud-and then decided you didn't after all," Tom said slowly. "Any idea why?"

The copilot shook his head. "All I know is I goofed and got kayoed."

Tom frowned thoughtfully as he helped Bud to his feet. "Take a look at this," he added.

Bud stared at the matchbook cover. "The Green Orb! I suppose that was a parting wisecrack!"

Tom agreed but said, "What shook up your attacker was when you claimed to know all about the Green Orb. Then he tested you by asking how much you knew. You said it was a good place to eat and hear things. Right?"

Bud gave a puzzled nod.

"In other words," Tom went on, "you assumed he was talking about the diner. But he could have meant the real Green Orb!"

"Jumpin* jets! I never thought of that!" Bud

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gasped. "Are you implying that your enemies may have something to do with that green space spook?"

Tom shrugged uneasily. "I wish I knew. How about the lighter? Still got it?"

Bud searched his pockets and then played Tom's flashlight over the ground.

The metal cigarette lighter was nowhere to be seen.

"That man must have taken it," Tom said. "We'd better go in and give Bob the all-clear."

Next day, Tom reported the matter to Ames and then visited Pedro Uzcudun.

The Basque said he had picked up no messages during the night.

"Keep trying," Tom encouraged him. "This experiment may take a while."

As the young inventor drove to his lab on a motor scooter, he saw a familiar bearded figure approaching the Special Projects building. Tom braked and called out, "Hi, Dr. Grimseyl Welcome back!"

The elderly scientist turned. Tom was shocked at the man's appearance. He was gaunt and stooped, and his illness seemed to have left other changes. But there was no mistaking the bushy hair and whiskers or the horn-rimmed eyeglasses and the hearing aid protruding from his left ear.

"Ah, good morning, Tom!" Dr. Grimsey's voice was still rather low and weak.

"Glad you made such a fast recovery," Tom said, shaking hands. "Think you're up to going

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back on the job so soon without a little more rest?"

"Eh? ... oh, rest. No, no, I can't bear to lie idle in a hospital bed. That's why I insisted on going home last night. I'm sure I'll regain my strength faster on the job."

Tom was doubtful, but said, "Well, that's great. Felix and Arv are still in bad shape, so I guess you and I will have to get the probe gear ready. Let's go take a look at those robots."

Dr. Grimsey, who was a lone-wolf type of scientist, had been assigned to a lab of his own at the rear of the building. It was there that he had been working on the ion-propulsion mechanism which would enable the camera-carrying robots to move freely about the Orb. The robots themselves, however, were under construction in a large central workshop area.

Tom and the elderly scientist examined the parts Arv and Felix had been working on. Then Tom suggested looking at the ion-drive generator which had been troubling Dr. Grimsey before he fell ill. But Grimsey, who seemed vague and unsettled, asked that Tom wait until later.

Tom grinned apologetically. "Okay. I didn't mean to rush things. Take it easy and let me know if you need any help on the job."

Tom hurried to his own laboratory and resumed work on the TV camera gear. Late in the day Hank Sterling dropped in, looking puzzled.

INVITATION TO DANGER 111

"Say, skipper, do you have the blueprints Arv made for those cybernetic controls?"

Tom frowned. "No. Can't you find them?"

Hank shook his head. "We've turned the place upside down, but they've disappeared-just when we need them in production. Arv probably stashed them in some out-of-the-way spot."

"Look, if you're really stuck, I can sketch the stuff out for you," Tom offered. "No, don't bother-you're up to your neck as it is," Hank said glumly. "We can take the details and dimensions from the pilot model Arv rigged. But it'll sure slow us down."

"That is a tough break. I'm sorry, Hank."

Tom worked until six o'clock, then broke off to go home to dinner. As he was leaving the table, the telephone rang. Tom answered it.

"Remember that letter telling you to lay off your 3-D TV project?" said a muffled voice.

Tom was instantly alert. "What about it?" he said, waving frantically to draw Sandy's eye.

The unknown caller seemed to read Tom's mind. "Don't bother tracing this number," he said. "I'm calling from a booth far from Shopton and I'll be gone before anyone can get here."

"All right, I get the picture," Tom gritted.

"That dud bomb was just to show you I'm not kidding," the man went on.

"Next time you won't get off so easy-if there is a next time."

"Meaning what?"

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"I'm hoping you've wised up enough to drop-your television project."

"Why should I give up such a gold mine?" Tom stalled, hoping to draw his caller out.

"Don't worry-you'll be well paid for the time you've put into it," the stranger said. "Or, if you don't want to sell, how about a deal to hold your set off the market for five years?"

Tom pretended to consider. "Let's say I'm willing to talk about it."

The caller rose to the bait. He suggested a meeting at ten o'clock that night.

After naming a wild, desolate spot, he told Tom to fly over it and watch for a light flashing. "But no trickery, Swift-or you'll regret it!"

Tom heard a click as his caller hung up.

The young inventor replaced the phone on its cradle and stood for a moment in deep thought. Mr. Swift had flown to The Citadel, their atomic research plant in New Mexico, that day, and Tom did not want to worry his mother or Sandy by telling them the situation. Tom always tried to avoid calling Enterprises' employees at their homes, but he decided that Harlan Ames should be informed of the proposed meeting. At once he dialed Ames's number.

The security chief was alarmed at the plan. "It could be a trap, Tom-it's too dangerous."

"Maybe so, Harlan, but it could also be dangerous not to go through with it. If the guy thinks I'm giving him the runaround, he might try another INVITATION TO DANGER 113

bomb stunt-and someone could get hurt. Besides," Tom argued, "this is a chance to learn his identity, maybe our only chance."

"Did this fellow sound like the other man who called and offered to buy your 3-D TV?"

Tom frowned. "I don't think so. But I have a hunch he is connected with some rival TV manufacturer and not a member of Sturko's gang."

"Take me along," Ames suggested.

"That would be asking for trouble, Harlan. If he spotted you, he might not show himself-there might even be gunplay."

"Then at least radio me an exact fix of the spot before you land," Ames begged.

"He'll probably be monitoring our frequency to check for a double cross," Tom pointed out. "I have another idea-track me on radar."

Ames agreed. Tom drove to the plant and took off in an atomicar. In half an hour he reached the meeting area-a dark, rocky valley fringed with timber. Tom skimmed low. Suddenly a pinpoint of light stabbed upward, then twice more. Tom brought his atomicar down cautiously and landed it on what appeared to be the bed of a dried-up creek. He got out and looked around.

Suddenly a yellow beam caught him square in the face. Tom stood pinned in

the glare. Then the light moved and played over the transparent bubble dome of the flying car.

A man's voice spoke from a clump of rocks and brush. "Hands up, Swift, and walk this way."

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Tom obeyed. A figure rose from the brush, but -the glare was too blinding for Tom to see the man's face.

"Turn around!"

Tom complied and the speaker frisked him.

"Now go back and open your car trunk, so I can make sure you've brought no one else along."

Satisfied at last, the man conducted Tom to a car parked off a dirt road nearby. The man forced Tom to take the wheel and climbed in.

"This is a poison-dart gun I'm holding," he added, "so no funny business."

Tom started the car and headed along the road, following his captor's directions. A forty-minute drive brought them to a small Quonset hut nestled among trees. The man took Tom inside and turned on fluorescent lights. The place was a laboratory, crammed with electronic gear, but Tom was more interested in his captor.

The man was red-haired and pudgy with darting, ferrety eyes. "My name is Horst," he said with a nervous smile. "Now that we're face to face, we should be able to talk business."

He named a large sum if Tom would agree to hold his 3-D television off the market. The young inventor stalled and tried to find out what company Horst was representing. Tom's tactics seemed to enrage the red-haired man.

"All right, Swift, you've had your chance!" he snarled. Wild-eyed, he aimed his dart gun at Tom. "Now you'll get what's coming to you!"

CHAPTER XIV

THE HIDDEN KEY

TOM froze, expecting Horst to fire. Instead, the red-haired man backed out of the lab and slammed the door. A key turned.

Pale and perspiring, Tom rushed to the door. It was too solid to break down and the formidable-looking lock appeared pickproof. The sound of a car engine told him that Horst was driving away.

Tom stood still, wiping his damp forehead. He was a prisoner miles from the spot where he had landed. Even though Ames had tracked him on radar, it might take hours or days for police to comb the area and locate the Quonset hut.

"But there must be some way to get out of here," Tom thought, glancing around. The laboratory was windowless, its walls lined with workbenches and racks of equipment. Suddenly Tom grinned. His pencil radio lacked sufficient range to contact Enterprises. But what was to prevent

THE HIDDEN KEY 117

him from making a two-way radio with a far more powerful transmitter? "It should be a cinch with all the electronic gear around here!" Tom thought. He began to search for parts. Suddenly Tom started as a voice spoke in the Quonset hut:

"This is Horst calling Tom Swift!"

Tom quickly spotted the source-a small radio receiver on a cluttered workbench.

Horst's voice was edgy, almost hysterical. "I-• I've been under a great strain. I was afraid all my years of work would be wasted because of your 3-D TV, so I wanted to keep it off the market. Now I know it's hopeless. I must have been out of my mind to resort to that bomb scare and-and what I planned for tonight." What had Horst planned? Tom wondered.

As if in answer, Horst said, "Look under the workbench on which this radio is standing- quickly! You'll find a bomb attached underneath. It's set to go off in a few minutes."

Tom darted to the workbench. The bomb was there! With trembling fingers he disarmed it.

Horst went on shakily, "I couldn't go through with murder. I'll tell you how to get out. All I ask is time to elude the police.

"Look in my safe," he said. "The combination is ten right, left twenty-one, two right. Believe me, it's not a booby trap. There are papers inside. Under them you'll find a key that will open the lab

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door. . . . I'm signing off now, but please give me time to escape."

The radio loudspeaker fell silent.

Tom hesitated. Horst's weird outburst had taken him by surprise. Was the business with the safe another deadly trickf Tom doubted it. Horst already had passed up two chances to kill him- with a dart gun or the bomb-so why bother with a booby-trapped safe routine?

But Tom proceeded warily. He took an insulated wire from the workbench, fastened one end to a water pipe, and touched the other to the safe dial. There was no spark.

"It's not electrified," Tom thought. He twirled the combination. Then he used the same wire and attached it to the safe door. Stepping well back, he tugged the door open.

"So far, so good," Tom muttered. He peered into the safe. It contained papers and blueprints. Tom lifted them out. A click sounded. Tom listened but could hear nothing more.

"Whew . . . well, there's the key!"

Tom plucked it out, strode across the laboratory, and tried the key in the lock.

It worked! In a second he had the door open.

"Wow! What a relief!" Tom said to himself as he stepped out into the fresh night air.

Suddenly Tom stared in surprise. The car he had come in with Horst was parked where they had left it! Apparently the red-haired fugitive had had another car concealed nearby.

THE HIDDEN KEY 119

"This one must be a stolen car," Tom decided. "Horst probably used it, so that in case of a hitch I couldn't trace his license number. It's a break for me. Now I won't have to hike back."

Tom was confident his captor had had no time to tamper with the car. But he gave it a quick inspection. The key was in the ignition. Satisfied that the car was safe to drive, Tom hopped in and sped back to the landing site.

His watch showed a few minutes to twelve when he reached the atomicar.

"Just in time," Tom thought. Midnight was the deadline when Ames would launch a search if Tom had not reported. The young inventor contacted Ames over the atomicar radio and told what had happened.

"The guy sounds like a nut!" the security chief snorted. "Are you sure there's not more to this than meets the eye, skipper?"

"I'm wondering that myself," Tom confessed uneasily. "The whole thing panned out too--"

"Too neatly, you mean?" A third person's voice cut in on the conversation.

"Horst!" Tom exclaimed with a gasp.

"Quite right, my dear Swift. You're also right in thinking everything was carefully staged!" A cackle of glee came over the radio.

"What's your game, mister?" Ames exploded.

"When Swift removed those papers from my safe," Horst said, "he heard a click. Right?"

"What about it?" Tom said.

"The noise was from the shutter of a hidden

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camera. It snapped you in the act of stealing the plans for my new 3-D television system."

"Your 3-D system?" Tom blurted in dismay.

"Exactly," Horst replied gloatingly. "I am now back at my lab and your fingerprints are on the dial of my safe. I could call the police and charge you with safecracking! . . . Moreover, you've stolen my car and your prints are on that, too. You fell into my trap, Swift, and now I have you right where I want you!"

Tom set his jaw. "What's this leading up to?"

"A deal," Horst said. "Sell your 3-D system or sign a contract to hold it off the market for five years. The terms will be generous. If you refuse, I'll say you stole my plans and smear your name all over the headlines."

Tom choked back his rage. "You want a Yes or No answer right now?" Horst chuckled. "I know the answer, Swift—it has to be Yes. You'll hear from me later about the contract details."

Grim-faced, Tom flew back to the plant for a midnight conference with Harlan Ames.

"Surely he can't get away with this," Tom fumed, stalking up and down. "It's blackmail!"

"The police will never swallow it," Ames agreed. "But once Horst gives out his story, Tom, you're sunk. He has your prints on his safe and a photo of you lifting out plans. A lot of people are bound to believe his tale. Enterprises' good name could be ruined."

THE HIDDEN KEY 121

"What can we do, Harlan?"

"Horst must be tied up with some rival manufacturer," Ames reasoned.

"Probably the same outfit behind that anonymous phone call."

"Any leads on that yet?" Tom asked.

"Just one. The private operatives I hired say Teletron, Incorporated, is rumored to have a stereo TV in the tooling-up stage. Their set will give a three-dimensional depth to the screen, but viewers must wear special glasses."

"Who's the head of the company?" asked Tom.

"A man named Alan Fosburg."

"We'll have a talk with him first thing in the morning," the young inventor decided.

At eight a.m. Tom and Ames took off by helijet for Teletron's main plant. Fosburg, a big, balding man, received them in his office. Tom came straight to the point. In cold, angry words he told of the phone call offering to buy his new 3-D TV system, and Horst's attempts to frighten and blackmail him into a deal.

Fosburg was red-faced and perspiring. "I'll admit I was the one who made that phone call," he confessed. "But I had a good reason."

"Name it!" Ames snapped.

"Horst is a free-lance electronics engineer. He invented a stereo-vision TV set which Teletron was going to produce," Fosburg explained. "Then we learned Tom Swift was working on a new 3-D system. Our set would have been outdated even before it hit the market. In desperation I

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made that anonymous call, hoping to swing some deal that would save the money we had sunk into tooling up for the stereo-vision set."

"And when that failed," Tom said accusingly, "you sicked Horst himself on me."

"No! Absolutely not!" Fosburg insisted. "Teletron is a reputable firm. Once I found out you wouldn't sell, we simply canceled our production plans for the stereo set. Believe me, I knew nothing of Horst's plot."

Tom and Ames exchanged frowning glances.

"Could be," the security chief admitted. "Horst probably hoped to get rich off his royalties from Teletron. When production was canceled, he may have gone ahead on his own, trying to bulldoze you off the market."

The telephone rang. Fosburg answered. Suddenly his eyes widened. He put his hand over the mouthpiece and looked up at Tom and Ames.

"It's Horst!" Fosburg whispered. "He wants to see me. Says he has big news."

Tom's brain worked fast. "Are you willing to help expose Horst?" Fosburg nodded vigorously. "Then ask him to come here after lunch."

At one-thirty the red-haired engineer was ushered into Fosburg's office. The company president smilingly invited him to sit down.

"You have good news?" Fosburg asked.

"The best." Horst beamed gloatingly. "I've persuaded Swift to make a deal.

You can buy the rights to his set or make a deal with him to hold

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back till you've flooded the market with our own stereo-vision TV. Either way, it leaves us a clear field to start production!"

Fosburg chuckled. "Terrific, Horst! You must be a slick operator. What kind of-er-persuasion did you use?"

Horst's ferrety eyes twinkled. "Between the two of us, I put young Mr. Swift right behind the eight ball! He has to deal with us now."

Convinced that the company president would approve of his trickery, Horst began to boast about how he had trapped Tom into opening the safe.

"And here's a picture of him-caught right in the act of stealing my plans!"

Gleefully Horst unzipped the leather case he was carrying and produced an enlarged, glossy photograph.

"Thanks for making a full confession!" said a voice that sent a chill down Horst's spine. The engineer gasped as Tom Swift and a slim, stern-eyed man walked into the office.

CHAPTER XV

A BLAZE IN THE DARK

TOM addressed Horst coldly. "Allow me to present Enterprises' security chief-you heard his voice over the radio."

Horst's face had gone pasty white. His ferrety eyes darted to Fosburg.

"What's the big idea? If this is some kind of double cross-

"Don't use that word to me," Fosburg retorted. "I had no part in your blackmail scheme. You've just convicted yourself by boasting about it."

Horst licked his lips nervously. "Don't be a fool," he argued. "This changes nothing. We can, still make a fortune on my stereo-vision TV! I have enough on Swift to shut him up. They'll never be able to prove I framed him."

"That's what you think," Ames growled. "Play back the video tape for him,

Tom."

The young inventor tugged a cord, pulling aside some draperies. Behind them stood his 3-D camera and telejector. Tom flicked a switch to
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reverse the reel of tape, then adjusted several knobs on the machines, set a small loudspeaker in position, and started the telejector.

As if by magic, two other persons appeared in the room! Horst's eyes bulged. One of the persons was his own double-the other an image of Fos-burg at his desk. The televised scene began at the moment Horst took a chair.

"You have good news?" Fosburg's image asked.

"The best," replied Horst's ghostly double. "I've persuaded Swift to make a deal."

The blackmailer's face began to ooze perspiration as the scene unreeled.

Presently the tape reached a point where Horst was boasting: "Then, after I gave Swift enough time to disarm the bomb, I told him to look in the safe and gave him the combination." The image burst into chuckles. "The poor sap didn't know I had a hidden camera rigged to--"

"Stop!" Horst blurted. "You don't have to go on-I realize you've got the goods on me!"

Tom switched off the telejector and Ames said with relish, "For your information, Horst, we're turning this video tape over to the police."

"No! Please!" the engineer begged. "There's no need for that! I'll be ruined!"

"Not only ruined," Ames said. "You'll spend the next few years in prison for blackmail."

Horst looked as if he were about to collapse. "Can't we make a deal?" he whined. "I'll do anything!"

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Ames began to question him about Flamm and Sturko and the disease plot.

Horst vigorously denied knowing anything about them and sounded as if he were telling the truth.

After a conference with Tom, Ames told Horst they would not press charges provided he signed a full confession and handed over the negative and all prints of the blackmail photograph. Horst eagerly agreed and produced the negative and several prints from his zippered case. Then a stenographer was called in to take down his confession.

After Horst had slunk out of the office, Fosburg turned to Tom. "I'm sorry for what happened. I hope you won't hold it against me."

"Without your help," Tom said, "we never would have turned the tables on Horst."

"Thanks." The company president shook hands with the young inventor.

"Incidentally, I'd like to congratulate you on your 3-D television. It's one of the

greatest feats of electronic engineering I've ever seen. When you're ready to market your TV, I hope you'll consider licensing Teletron to produce the set." "A license will be available to all manufacturers," Tom told him. "As a matter of fact, Enterprises will be sending out a publicity release on my invention very soon."

Minutes later, Tom and Ames were jetting back to Enterprises. Bud, who had already heard of the blackmail plot, came running out to meet them as

A BLAZE IN THE DARK 127

they landed. He roared with glee when he heard how they had cornered Horst.

"Boy, I wish I'd been there to see his face!"

"I hope I never see it again," Tom declared.

The young inventor was anxious to check the condition of Felix Wong and Arv Hanson, so Bud drove him to the infirmary. A nurse informed the two boys that Doc Simpson was conducting experiments with Pedro Uzcudun. Tom and Bud took the elevator to the top floor and found the medic just removing the EEG electrodes from Uzcudun's scalp. Both looked disappointed.

"Any luck?" Tom inquired.

Doc Simpson shook his head. "Not yet. Pete thought he was on the verge of picking up something, but we weren't able to get any results."

Uzcudun got up from his chair glumly. "You know, amigo, I fear this location may be part of the trouble. I am used to being alone and up in high places while I tend my flock. The sky there seems so close. Perhaps here, I shall never be able to receive any messages."

Tom mulled this over, then asked Pete, "How would you like to bunk out by yourself for a while in a cabin up on a hill?"

The Basque shepherd's face brightened. "A fine idea, I think! Is it possible?"

"Sure thing." Tom turned to Bud. "Remember that shack at the foot of the hill where we waited for the brain energy from Planet X?"

Bud grinned. "How could I forget old Exman!"

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"Okay, here's a hurry-up job. Get a work crew and erect a house trailer on the hilltop. Install this electroencephalograph in it. And run a phone extension line up from the old shack."

Bud saluted. "Can do, boss! We'll have it ready before we knock off this evening!"

As Bud left, Tom asked about Felix and Arv.

"No improvement," Doc reported, his face grave. "Their fever was slightly higher last time I checked, and both are still in a coma."

Worried, Tom went to his lab and resumed work on the camera gear for the probe robots. About five o'clock Ames came into the laboratory. Tom was intent on the electron lenses he was constructing, but when he glanced up, he could tell

by Ames's expression that something was wrong.

"Trouble?" Tom asked tersely.

"More blueprints are missing-and they weren't mislaid. They're plans for some of your most important inventions." Tom started to break in with a question, but Ames went on, "Yes, no need to ask-it's an inside job, skipper. Someone at Enterprises is working for your enemy."

Tom was shocked by the news. "Any leads?"

"Not yet, but don't start worrying. Leave that to me. You have enough on your mind."

Tom's jaw tightened. "Okay. Anything else?"

"We got a line on Mulver, but it's not much help. He lived over in Carterton."

"Hasn't he gone back there?"

A BLAZE IN THE DARK 129

Ames shook his head. "No, his sister says he never returned from Shopton.

But she got a mysterious card from him Saturday, postmarked New York with no return address."

"What did it say?" Tom asked, intrigued.

"That he had landed a big job and she might not hear from him for a while.

No details."

Tom frowned. "Somehow I don't like the sound of that, Harlan."

"Neither do I."

Tom's evening meal was a bowl of soup urged on him by Chow. The young inventor worked for several hours more, trying to make up for the time he had lost because of Horst. When he finally went home, Mrs. Swift prepared a tasty snack for him. Then she and Sandy sat in the living room with Tom, listening to the late TV news.

They were startled as the announcer ended the newscast by saying,

"According to a report just received, the famous young inventor, Tom Swift Jr., has developed a new three-dimensional television system. No details are available, but knowing Tom Swift, we predict the TV world is in for a revolutionary surprise!"

"I thought it was still to be a deep, dark secret, Tom!" Sandy exclaimed.

"So did I," her brother said ruefully. He wondered whether the news leak had come from Horst, Fosburg, or someone at Enterprises.

The phone rang. Tom answered it.

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"This is Pete Uzcidun, Tom," said an excited voice. "Moving up on this hill has turned the trick! Already I'm picking up something!"

"Call Doc! We'll be right with you!" Tom exclaimed. Pulling on his jacket, he dashed outside. Tom had purposely driven an atomicar home from the plant in case of a call from the shepherd. He slid behind the wheel, closed the transparent canopy, and zoomed aloft.

In minutes Tom landed on the hilltop near the trailer. Doc Simpson came swooping down in another atomicar. Uzcudun had dragged a comfortable chair outdoors and the portable EEG machine stood just inside the doorway. Doc attached the electrodes and Pete settled back to gaze up at the starry night sky. "The Orb ... the Green Orb," he muttered tensely. "The plot against Tom Swift ... is succeeding. . . . More trouble tonight."

Suddenly Doc Simpson gasped and grabbed Tom's arm. "Look, skipper!" He pointed toward Swift Enterprises, visible in the distance below. Orange flame and billowing smoke were shooting up from inside the experimental station!

CHAPTER XVI

THE GRIZZLY CLUE

TOM stared in dismay at the plant fire. "Come on, Doc!" he cried. "We may be needed!"

Without waiting for the medic to detach the EEG electrodes, Tom climbed into his atomicar and streaked toward Enterprises.

Nearing the plant, Tom's feeling of shock was intensified—the blaze was roaring up from the Special Projects building. Waves of heat buffeted his flying car as he landed near the crackling inferno.

Tom leaped out, shielding his eyes from the glare of the fire. "Good grief!" he thought. "All my special projects going up in smoke!"

The plant's warning siren had alerted everyone at the experimental station.

Men, their faces livid in the light from the flames, were fighting the fire. A tank truck was already spewing Tomasite foam into the blaze and two more came speeding and clanging to the scene.

"Boy, this sure is a bad fire, skipper!"

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Tom turned and saw the chunky figure of Phil Radnor. "How'd the fire get so far out of hand, Rad?" he questioned anxiously.

"Arson is my guess." The security man had to shout to make himself heard.

"The flames broke

THE GRIZZLY CLUE 133

out all over the building at once. They were sky-high by the time we got the alarm."

Tom took charge of the fire fighters and soon the flames were brought under control. Luckily, Special Projects had been closed for the night and

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no employees were inside, but the building was left a blackened, smoking shell.

The special chemical had cooled the ruins quickly. Tom, Ames, Radnor, and Doc Simpson entered the wrecked structure. The central workshop was a shambles. Tom felt sick as he examined the charred, twisted remains of the

probe robots. The intense heat had buckled several metal beams in the ceiling. "Definitely arson," Ames declared. "Nothing else could have caused such a holocaust."

A fire inspector arrived and Radnor reported that an arson expert from the State Police was on his way. Leaving them all to probe the ruins, Tom jeeped to the security office with Ames. Here he telephoned Pedro Uzcudun.

"Listen, Pete," he said, "did that message tonight seem to involve anyone besides me? Or did you pick up any more details later?"

"This may sound loco, amigo, but I got a dim impression of someone or something very hairy or whiskery." Uzcudun gave an apologetic chuckle. "It made me think of a grizzly!"

When Tom reported this to Ames, the security chief shrugged. "Not much help, is it?"

"I'm not sure, Harlan." Tom rubbed his jaw thoughtfully. "Let's take a little ride."

Minutes later, their atomicar was swooping out of the darkness toward a gabled house overlooking Lake Carlopa. Although it was past midnight, lights showed in several windows.

THE GRIZZLY CLUE 135

Tom rang the bell. At last a bearded figure in shirt sleeves opened the door. "Ah, good evening." Dr. Grimsey stared in surprise at his visitors but invited them in.

"Sorry to bother you so late," Tom apologized. "Something has happened at the plant."

The elderly scientist did not seem to understand. His wild shock of gray hair made him look even more bewildered. "I-uh—" Suddenly he broke off. His left hand, marked by the large mole, flew up to his ear. "Do forgive me! I was getting ready for bed when the bell rang, and in my hurry I neglected to put on my hearing aid."

He started to turn away but Tom urged him into a chair. "Please sit down. This news may be a shock." Torn shaped his words so Grimsey could lip-read. "I'll get your hearing aid."

The elderly man seemed perplexed, so Tom turned to Ames. "Write what I said, Harlan."

As Ames complied, Tom hurried upstairs to Grimsey's bedroom. Soon he returned with the hearing aid. The bearded scientist inserted it gratefully and beamed at Tom and Ames.

"Ah, that's better. Thank you."

"Can you hear me now?" Tom asked.

"Yes, perfectly."

Tom gave him a piercing look. "That's strange. Your hearing aid has no battery—I removed it." The young inventor held out a tiny dry cell.

Grimsey spluttered and leaped to his feet.

"Grab him, Harlan!" Tom cried out.

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The whiskered man fought like a tiger, biting and kicking, but Tom finally subdued him with an armlock and Ames slipped on handcuffs.

Tom quickly removed the impostor's bushy wig and false whiskers. He also peeled the cleverly faked mole off the man's hand. Ames gaped.

"How did you wise up to him, skipper?"

"That word 'grizzly' is pretty close to 'Grim-sey,'" Tom explained, "and he was sure hairy enough to fit Pete's description. As a matter of fact, he struck me as strange on his first day back at work."

"Then he set the fire?"

Tom nodded. "Probably by incendiary bombs which he concealed in the building before leaving the plant. He may have used a timer-or he could have ignited them by remote control. No doubt he also stole the plans."

"But how did this phony manage to take the real Dr. Grimsey's place?" Ames asked.

"The switch must have been pulled the evening Grimsey came home from the infirmary," Tom said. "But we'll let Mr. X explain."

Ames glared coldly at the impostor. "All right, mister. Start talking! Where is Grimsey?"

The only response was a sullen shrug. Ames finally called the police and the prisoner was taken off to jail. Then Tom and Ames searched for the missing blueprints and found them in the impostor's briefcase.

Next morning, over a late breakfast, Tom lis-

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tened to a radio newscast. Again his new 3-D television system was mentioned. He drove off to work, very much annoyed at the news leak.

Minutes after he arrived at Enterprises, Mr. Swift landed in a cargo jet from The Citadel. Tom greeted him in their big double office and related everything that had happened.

"This leaves a big load on your shoulders, son," Mr. Swift said. "Can I give you a hand?"

"That would be great, Dad!" Tom exclaimed. "It has been months since we teamed on a project. But how about your atomic research?"

"Give me this morning to get things squared away and I'll be ready for you." Ames came into Tom's laboratory later. "The switchboard's flooded with calls about your 3-D TV," he reported. "Newsmen, manufacturers, TV big shots-they all want the inside dope."

"What's being done about it?" Tom queried.

"Don't worry. Your dad's handling the calls so you won't be disturbed.

Incidentally, we checked out that leak."

"Who spilled the news?" Tom asked.

"Fosburg, at Teletron. He blabbed to a reporter. When I called to check, he said he didn't think it would matter since we were planning a publicity release soon."

Tom grimaced. "My fault for mentioning it."

In spite of the mounting pressure, Tom found it hard to work. He felt depressed and worried about Dr. Grimsey, and the illness of Felix and

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Arv. Unable to concentrate, he went over to the Special Projects building in the hope of salvaging some parts from the ruined robots.

Tom's father found him poking about the burned-out workshop. "No wonder your lab didn't answer." The elder scientist smiled and added, "I've just had a call from the Council of Television and Advertising Executives."

"What about, Dad?"

"They're having a luncheon today, but their speaker was called away-so they want you to give a talk about your new 3-D television."

Tom demurred, but his father urged him to accept. "It'll do you good, son-get your mind off things. And it's a chance to give your new invention a great publicity send-off!"

"Hmm. . . Well, maybe you're right. Dad."

Tom took off for New York City by helijet, accompanied by Bud, who would help him handle the telejector equipment.

After the luncheon, Tom began his presentation by explaining his 3-D TV system. Then, while Bud panned the camera over the audience, Tom, projected their three-dimensional images near the speaker's platform.

The room rocked with applause.

"This will certainly shake up the industry!" a network vice-president exclaimed.

A doubting advertising agency executive rose to

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his feet. "Your demonstration's great," he told Tom, "but let's face it. This is bound to take years before it hits big. Look how long it took color TV to reach a wide public."

Tom grinned at the challenge. "It may take time," he agreed. "But why let that stop you, gentlemen? My 3-D telejector can revolutionize the entertainment and advertising field overnight -if you use your imaginations."

"Are you implying a laboratory scientist would know more about that than we would?" the executive retorted sarcastically.

"Take it any way you like, sir." Tom smiled politely. "I think I can promise you a spectacular example of what I mean in a few days."

He refused to say more, although the audience buzzed with questions.

"Tom Swift is a showman-I'll grant him that," Bud overheard the executive

say. "He's already got everyone eaten up with curiosity!"

On the flight back to Shopton, Tom declined to tell even Bud Barclay what he had in mind. "Bear with me, fly-boy," he said with a chuckle. "I'm hoping to make your eyes pop, too!"

As they landed at Enterprises, Ames came speeding out in a car. "Hop in!" he told the boys. "The impostor who posed as Dr. Grimsey is ready to talk!"

"What changed his mind?" Tom asked on the way.

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"Wes Norris convinced him he'd be charged with kidnapping or even murder if the real Dr. Grimsey wasn't found."

Norris, an FBI agent, was an old acquaintance of the Swifts. He and Police Chief Slater greeted Ames and the boys when they arrived at headquarters. Then the prisoner was brought into Slater's office.

"Tom Swift is here now, so let's have your story!" the chief barked.

The mystery man, haggard and shaven-headed, asked for pencil and paper. He wrote something on the paper, then held it up. The paper bore the single letter Q!

CHAPTER XVII

ROUNDUP RAID

TOM's eyes kindled as the man showed them what he had written. "What does the Q stand for?" Tom demanded tensely.

"It's a symbol used by a gang of scientific spies," the prisoner replied, "probably the most dangerous espionage outfit at large. They call themselves Group Q, and are identified by their special lighters."

"Let's get your name," Wes Norris put in.

"Kessler-Jeremy Kessler," the shaven-headed man told him. "I'm an engineer and physicist."

"You're a member of the gang?"

"I was a member. Once I talk, I'll need protection from their vengeance."

"You'll get it," the FBI man assured him.

"Group Q is now engaged in space communications research," Kessler began, "to help them carry out rocket and missile espionage."

"For what country?" Chief Slater asked. UI

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"They have no national loyalty. Group Q sells its information to the highest bidder."

"And the Green Orb diner setup was part of their espionage activities?" Tom inquired.

Kessler nodded. "Flamm is one of the gang's top men. That revolving sign to pick up telemetered data was his idea. The diner made a good place to eavesdrop on your rocket crews."

After the Green Orb had appeared in the sky, the prisoner went on, Flamm

had decided to change the name of the diners as an excuse to erect the green sign balloon. As Tom had suspected, the balloon contained a TV camera. Kessler also explained that Klaus Sturko had joined the gang after escaping from prison. They had tried to kidnap Sturko from the hospital, fearing that Tom might identify him and become suspicious about the sign.

"Now let's get to the interesting part," Tom prodded. "Does Group Q have some special interest in the real Green Orb?"

The prisoner stared at Tom as if a ghost had risen through the floor. "I don't know how you guessed that, but I'm glad you did. It may help you believe what I'm going to tell you."

"You tell us!" Ames snapped. "We'll decide whether to believe you or not!"

"Some form of life exists on the Green Orb," Kessler informed his questioners. "After studying its radio output, Group Q became convinced the Orb was trying to communicate with earth. But

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they couldn't decipher its messages. Then Flamm met a fellow in Shopton who claimed he was picking up space signals in his head."

"Was the man Joe Mulver?" Tom asked.

Again Kessler stared. "That's right. Mulver seemed like an oddball, but Flamm decided to test him. Turned out Mulver was on the level. He was able to reel off information a faker couldn't ever have guessed."

"How did he do it?" Tom asked.

"As near as the Group Q experts can figure out, by some form of radio telepathy. The process involves artificially induced brain waves, but the details are a mystery. Apparently Orb life is far advanced over ours, at least in its ability to communicate over long distances."

"What about your impersonating Dr. Grim-sey?" Wes N orris inquired.

"I'm coming to that," Kessler explained. "The Green Orb life is very much afraid of the television probe that Tom Swift is planning."

Tom gasped. "How did they know of the probe?"

"They know plenty," Kessler replied grimly. "Whatever's up there on the Green Orb seems able to tune in on every form of earth communication. You'd be surprised how much they were able to tell us about Enterprises. The Group Q researchers have a hunch the Orb life can even monitor human brain waves directly."

Ames and N orris exchanged startled glances.

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Bud put in, "Are you saying that the Green Orb life was helping Group Q by supplying them with information?"

"That's right-with Mulver acting as a human radio receiver. Once the Orb life sensed that they were getting through to us, they began sending Group Q a regular stream of messages."

"Wait-let's get one thing clear," Tom said. "Why is the Orb so afraid of my TV probe?"

Kessler shrugged. "That's another mystery. Even Group Q's top brains can't figure it out. They think the Orb had Swift Enterprises marked out for some reason all along."

"So this unknown form of life enlisted Group Q in a plot to sabotage the probe-is that it?"

"Exactly," said Kessler. "They offered a plan to get us into Enterprises to steal yours and your father's scientific secrets by substituting me for Dr. Grimsey. In return we were to wreck your TV project."

"Which you hoped to accomplish," Ames said, "by wiping out everyone involved in the project-Tom, Dr. Grimsey, Felix Wong, and Hanson."

Kessler went on, "They even transmitted a chemical formula to cause an unknown disease."

The Swift house, Kessler added, turned out to be too well protected to risk entry. But Flamm had shadowed Tom's three co-workers and had had no difficulty breaking into their homes and injecting them with the chemical.

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Grimsey had been picked as the easiest one to impersonate because of his bushy hair, beard, and spectacles. Group Q would have used plastic surgery to achieve a double for him. But Kessler's height and features seemed similar enough to carry off the masquerade with a wig and false beard, especially since Grimsey would emerge from the hospital changed slightly in appearance and voice by illness.

The elderly scientist had been given a light dose of the chemical so he would recover quickly. On the evening he was released from the hospital, Kessler related, Dr. Grimsey had been kidnapped. The gang then injected him with truth serum to elicit all the information his impostor would need to carry out the deception.

"And the next day," Kessler ended, "I took his place at Enterprises."

"Where is Dr. Grimsey now?" Tom asked.

"He's being held as a hostage at Group Q's secret laboratory and headquarters."

"Where's that?" Ames demanded.

Kessler asked for a map and pinpointed a spot many miles from Shopton.

"The gang is based in an abandoned sanatorium high in the mountains," he explained. "It's miles from any village and surrounded by pine forest. The only approach is by a dirt road leading up the mountainside."

The sanatorium, Kessler said, had been cleverly rebuilt with a sliding roof which opened at night to expose an elaborate antenna system. The Group

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Q scientists had also perfected an artificial cloud and mist spreader to use

whenever it was desirable to mask their operations.

"Hauling in this outfit could be quite a job," Norris remarked with a thoughtful frown.

"Don't think you'll take them by surprise," Kessler warned. "There's a radar-alarm system for aircraft and the dirt road is monitored by television. . . . You have another problem, too."

"Meaning what?" Tom asked.

"The Orb life. As I've told you, it seems able to monitor human communications. They may transmit a warning to Group Q."

"I doubt if the Orb life is that all-knowing," Tom said, "but we'll take no chances." He swung to Ames and Norris. "We'll need state troopers or federal agents to make the arrests. Harlan, will you drive to the State Police post and get all the men Captain Rock can spare? Wes, please get hold of any other FBI agents. And I think I can round up enough volunteers at Enterprises for the foot-slogging work. Now, here's my plan."

A short time later a dozen atomicars loaded with men began jetting off from Enterprises. They landed on the highway some distance from the dirt road which wound upward to the sanatorium. The men piled out and began fanning up the mountain on foot through the pine woods.

Two hours went by. Tom and Bud sat tensely at the controls of the Sky Queen on the Enterprises

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airfield. Presently a beep sounded over the radio. Later came another, then another.

At the twelfth beep Bud turned to Tom. •"They're all in position, skipper!" Tom flicked on a red signal light to alert the troopers and FBI men waiting aft in the plane's lounge. "Here goes, pal!"

The huge craft zoomed aloft and streaked toward its target at supersonic speed. Tom slowed sharply as they approached the gang's mountain aerie, then sent the Queen swooping down like a giant bird of prey.

A whitish mist was billowing up over the area. Then, suddenly, a ring of fiery flares encircled the walled grounds of the sanatorium. Tom switched on the giant searchlight his father had invented. Its ultrapowerful rays stabbed through the foggy vapor as the Flying Lab hovered down on its jet lifters.

"Let's hope our flame throwers don't start a forest fire!" Bud muttered.

"They're aiming inward over the cleared grounds," Tom replied. "Besides, the Forest Service told me the woods are moist just now."

Wraithlike figures could be seen pouring out of the sanatorium building in a frantic effort to escape. But state troopers and FBI men landed from the low-hovering plane and began rounding them up. Some suspects tried to get away over the wall but were seized by the men waiting outside.

In the eerie brilliance of the giant searchlight,

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the prisoners were herded back into the building. One, under prodding from Wes Norris, switched off the mist-spreading device.

A few minutes later Hank Sterling boarded the Queen. "A-OK, skipper! The mopping up is all over!"

Tom and Bud climbed out of the plane and hurried toward the building. Inside they found Dr. Grimsey safe and beaming with gratitude for his rescue. Then Tom received a report from Harlan Ames. The security chief gestured toward the sullen-faced prisoners.

"From what these men say and the secret records we've turned up, there were thirty-seven members of Group Q here. We have thirty-six. The one man who escaped was the gang's leader."

"Did you get his description?" Tom asked.

Ames nodded grimly and held out something in his hand. "We found this in his office."

Tom's face blanched as he saw what Ames was holding—a small crystal cube containing a carved black cobra—the symbol of a powerful enemy they had thought dead!

CHAPTER XVIII

SKY-O-RAMA

At sight of the crystal cube, Bud gave a gasp. "The emblem of the Black Cobral . . . But the man's dead, Tom!"

"We thought so. Maybe we were mistaken."

Months earlier, while battling the asteroid pirates, Tom and Bud had faced death at the hands of a treacherous master criminal known as the Black Cobra. He had been reported killed when his spaceship disintegrated in an antimatter explosion above the phantom satellite.

"What about the description of Group Q's leader, Harlan?" Tom asked. "Does it fit?"

"I'm afraid so, skipper," Ames replied. "They say he's a tall, powerfully built Eurasian."

Tom digested the dismaying news in silence. With Group Q rounded up, he had hoped to proceed with his Orb probe unhampered by enemies. Instead, a dangerous foe was at large—and now with double grounds for vengeance against Tom Swift!

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"Wes, can you have the FBI and the State Police put out an immediate dragnet?" Tom said.

"I've already phoned an alarm," Norris replied.

"Captain Rock has promised to block all roads leading out of these

mountains."

"And I'll tell our men to start beating the woods right now," Bud put in. "They can keep in touch over their walkie-talkies."

Tom approved Bud's move, but said that he doubted they could flush their quarry before dusk closed in over the pine forest.

"Which one of this gang is Flamm?" Tom asked Ames.

Ames beckoned curtly. A balding, dark-mustached man stepped out from among the prisoners.

"What about that disease chemical you injected into Wong and Hanson?"

Tom asked.

"I don't know what you mean," Flamm mumbled.

"Don't give me that!" Tom's eyes blazed. "Your stooge, Kessler, has spilled the whole story and you'll stand trial for murder if Wong and Hanson die. Is there an antidote?"

Flamm quailed under the young inventor's tone. "No-none that I know of," he stammered.

"Write the formula you injected," Tom ordered.

Flamm obeyed with trembling fingers. While he was doing so, Tom's eyes raked the other prisoners. Among them he recognized a gaunt,

152 3-D TELEJECTOR

big-nosed man with a bewildered, woebegone look.

"Mulver! Was he listed in the gang, Harlan?"

Ames nodded, then asked, "Do you think medical men can work out an antidote to that formula?"

"I sure hope so-and you'd better hope so, too, mister!" Tom told Flamm.

"We'll get the best medical specialists to work on it."

At nine o'clock that night an urgent meeting was called in the Swifts' office at Enterprises. Around the conference table sat Tom, his father, Dr. Grimsey, Hank Sterling, and Bud Barclay.

"For some unknown reason," Tom began, "the form of life that exists on the Green Orb seems to be hostile to us. We now know they can monitor our communications and anticipate our moves. Worse yet, the Black Cobra's at large to help them. I don't know what new devilry they're plotting, but we'd better get our probe launched fast before they strike again! Our only chance of saving Felix and Arv may hinge on what we can learn about the Orb-maybe even our national safety!"

The young inventor explained that by Monday night he hoped to have all gear and equipment readied for the probe shot, so that the launch could take place Tuesday morning at eight o'clock.

"Three days! That's a tough schedule to meet, son," Mr. Swift put in. "And what about this TV demonstration you've promised?"

"I sure won't let it interfere with work on the probe, Dad."

"Very well. Suppose you lay out our jobs."

Tom turned to Bud. "I want you to act as coordinator between Fearing and Enterprises on the launch details. We'll use the Sampson Mark III cargo rocket. Tomorrow I'll give you a rundown on all gear to go aboard. I want the rocket on its pad, fueled, and checked out for an eight a.m. blast-off on Tuesday."

Bud's eyes sparkled with enthusiasm. "Roger!"

"Hank, I have a pilot model ready of the TV camera gear which is to go inside the robots," Tom went on. "Make me four production copies -and also three duplicates of the regular portable model."

Hank Sterling promised to put a full night shift to work on the job at once.

"What about the robots themselves, Tom?" Dr. Grimsey inquired. He was shocked when Tom told him how the fire had destroyed the unfinished models.

"But the cybernetic units were still on the production line," Tom added, "so they're intact. I think you and Dad and I working together can make four new robots pretty fast."

Swift Enterprises hummed with activity as the weekend began. On Saturday afternoon Bud, looking glum, dropped into Tom's laboratory.

"Trouble?" the young inventor asked.

"Yeah, date trouble," Bud said, flopping onto a

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lab stool. "I was hoping to find time to take Sandy dancing tonight."

"But she begged off?"

"You know she did," Bud retorted. "When I phoned, she told me you were sending her and Phyl out of town on business. What gives, pal?"

Tom's eyes twinkled. "She's carrying out a special assignment for me, fly-boy. I'm afraid that's all I care to tell you right now."

Work proceeded on schedule and by two o'clock Monday afternoon Tom, Mr. Swift, and Dr. Grimsey were engaged in the final assembly of the four probe robots. Bud and Chow watched with big eyes and broad grins as the TV camera gear was installed in the robots' heads, which were then assembled to the bodies after an inner ganglia of wires and cables had been connected.

"Brand my gingerbread!" Chow exclaimed. "Them critters look like reg'lar lil Martians!"

The robots, built of gleaming magnesium alloy, were four feet tall. Television and radio antennas sprouted from their round buglike heads. Their arms and legs-curved metal tubes-were attached to cylindrical bodies.

"How'll they get around?" Bud queried.

"They'll be radio-controlled from earth," Tom explained, "and ion-driven. You see, each one is really a tiny spaceship. They'll take off from the mother rocket after it goes into orbit."

"The ion drive," Tom went on, "jets from.

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their arms and legs, so by moving the limbs, the controller can maneuver the robots in any direction. They'll approach the Orb under their own power for close reconnaissance."

"Won't these lil hombres land?" Chow asked.

"Sure, if it looks safe to do so," Tom said. "They're gyro-balanced so they can walk around."

Bud chuckled, peering into one robot's face. "And their 'eyes' are your TV cameras, eh?"

"Right-twin inputs for a wider arc of vision." Tom also explained that the robots' mouths would be gas-sample intakes for checking the Orb's thick, foglike outer atmosphere.

Chow clumped all around the metal men, scrutinizing them from every angle.

"What're you goin' to call the critters, Tom?" he inquired.

"Hadn't thought about it. Any suggestions?"

"How about the Grinning Gremlins?" Bud joked.

"Come, come." Dr. Grimsey smiled. "Surely they merit a higher rank than gremlins. These will be our daring advance scouts, striking deep into the unknown like the Vikings of old!"

"How about naming them Video Vikings?" said Tom Sr.

His suggestion was greeted with loud applause.

"Great name, Dad!" Tom agreed. "That's it."

After testing the robots' camera gear and walking stability in the lab, Tom flew to Fearing with Bud and Chow. Here they took off on a quick

156 3-D TELEJECTOR

space flight in the Challenger so the Video Vikings could try out their "space legs." The robots checked out perfectly.

Next morning, the newscasts and headlines blared a sensational announcement by Tom Swift. Everyone living in a wide Eastern area was invited to step outdoors and watch the sky at nine o'clock that night. They were also advised to have portable radios, tuned to a certain frequency.

"The famous young inventor has given no clue to what's in store," a newscaster reported. "One inside rumor claims that he's planning to touch off a nuclear explosion on the Green Orb. According to another tip, he's preparing a spectacular display of electronic fireworks. Whatever Tom Swift Jr.'s up to, it's a safe bet that viewers will see some amazing feat of science!"

Tom had spent the night on Fearing Island. At 8:13 a.m., after frenzied preparations through the predawn hours by the launch crew, the Sampson Mark III lifted off its pad with a gush of flame and streaked skyward toward the Green Orb. Mr. Swift, Tom, Dr. Grimsey, and Bud observed the blast-off from a concrete bunker.

"Good old Rad Sampson!" murmured Mr. Swift as the probe missile

disappeared into the blue. "He never dreamed his name would be attached to a mission like this one, son!"

Mr. Swift was referring to a Negro employee named Eradicate Sampson.

Although he had passed away when Tom was a small boy, the

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young inventor remembered him with great affection.

"I'm glad we named our newest rockets after him, Dad," Tom replied.

Bud had gone without sleep in the bustle of preparations for the probe launch. He remained on Fearing to nap in the crew's dormitory, then flew back to Enterprises after lunch.

From the airfield, Bud jeeped to Tom's lab, but the young inventor was not there. So Bud called the Swifts' office in the main building. "I'm sorry," Miss Trent said. "Tom has asked not to be disturbed except for an emergency."

"Well, this isn't one, so don't bother him," Bud said. "What's the mad genius up to now?"

"He said he had some scriptwriting to do."

Scriptwriting? Bud hung up, greatly intrigued. Later in the afternoon he noticed several TV camera crews shooting scenes around the plant.

"Wow!" murmured Bud as a sudden hunch hit him. "If I'm right, that doubting advertising exec in New York is in for a show that'll change his mind!"

Long before the appointed time that evening, spectators began thronging outdoors from town homes, farmhouses, and other buildings. Some carried table radios, some clutched transistor sets with earplugs. Buses, trains, telephone exchanges, and other public facilities noticed a sharp dropoff in patronage. All eyes were glued to the heavens.

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Suddenly, at the stroke of nine, a gigantic three-dimensional image of Tom Swift Jr. appeared in the night sky. The 3-D picture, projected from the Enterprises observatory, was visible for hundreds of miles!

"Good evening, everyone!" Tom's voice was picked up on a million loudspeakers. "You are about to witness a demonstration of my new 3-D television. I've decided to use this opportunity to try to interest the youth of America in scientific careers-the most exciting work of the twentieth century! Tonight you'll see some of the thrilling fields of research in which a scientific worker can take part-also some of the things we're doing at Swift Enterprises. But first I'd like to present the man who introduced me to science-Tom Swift Sr."

Mr. Swift's image spoke briefly on the importance of a sound education. Then scene after scene of laboratory research and testing flashed into the sky as he and Tom took the audience on a tour of their experimental station.

Next, Sandy described careers for girls in science and showed taped interviews with leading women engineers and researchers.

As a climax, the audience saw a huge image of the Green Orb probe rocket

roaring aloft from its pad-then a close-up of the Swifts' outpost in space, followed by exciting scenes of Tom's jet-marines, diving seacopters, atomic earth blaster, and other inventions in action.

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Seconds after the 3-D skycast ended, the Enterprises switchboard was jammed. Calls and telegrams of congratulation began pouring in.

One caller was Andrew Nolan, president of the Amalgamated Broadcasting System. "Congratulations, Tom, on the most spectacular piece of showmanship I've ever seen!" he exclaimed. "You've made present-day television look like horse-and-buggy stuff! ... I might say that you also wrecked the audience rating of every TV show on the air," he added ruefully.

The advertising executive who had scoffed at Tom during the luncheon also called to apologize. "From now on I'm making no more cracks about lab scientists," he told the young inventor. "Any time you'd like to switch your talents to advertising, please come to our agency first."

"Thanks, I'll stick to inventing," Tom responded with a chuckle. He hung up and turned to his father, Bud, and Dr. Grimsey, who were sitting with him in the big double office.

Just then the phone rang again.

"If that switchboard stays open, you could be here all night, pal!" Bud said jokingly.

This time the caller was George Dilling, who had been monitoring the Sampson Mark Ill's progress from the tracking center on Fearing Island. "The probe rocket is going into orbit, skipper!" he reported. "Your Video Vikings will be taking off from the mother ship in a few minutes!"

CHAPTER XIX

A "LIVE" 3-D-CAST

TOM'S heart pounded at the news. "Stand by!" he responded. "We'll be right over!"

The group dashed out to the airfield and were soon jetting to the rocket base. At Fearing a jeep sped them to the robot monitoring station on the eastern shore of the island.

A rack of electronic gear had been set up outdoors on the flat, sandy beach. Hank Sterling, wearing a radio headset, was in charge. Around him were a group of government scientists who had flown up from Washington.

Tom and Mr. Swift greeted Bernt Ahlgren, who introduced the others. Some, like Dr. Leo Palfrey, were old friends.

"Have the robots disembarked yet from the rocketship?" Tom asked Hank Sterling.

"Yes. The space outpost was watching over the megascope," Hank added.

"They report the

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maneuver went off without a hitch. The robots have now entered the Orb's atmosphere."

Tom donned a headset and stepped to the control console. He switched on the gas-analysis monitor to check the readings being telemetered back by the Video Vikings.

"Over ninety per cent chlorine!" Mr. Swift murmured. "That must be what gives the Orb's cloud cover its yellowish-green character."

Gradually the chlorine reading diminished and the gas sampling showed that the Orb's inner atmosphere resembled earth's. It was composed mostly of oxygen and nitrogen with some ammonia vapor and only faint traces of chlorine. "Amazing!" Dr. Grimsey commented. "Chlorine is a heavier gas than oxygen or nitrogen, yet it seems to be layered at a higher atmospheric level."

"Must be due to some form of selective repulsion," Ahlgren speculated. "The Orb life may use the chlorine layer as a protective cover."

Tom agreed. "Since the robots have pierced the cloud cover," he announced, "we should be able to get a clear view of the Green Orb."

Everyone watched with bated breath as Tom switched on his 3-D telejector and tuned several dials to amplify the picture signals being relayed back to earth by the Video Vikings.

As if by magic, a strange scene sprang into view. Tom was projecting it out over the water under the illumination of floodlights.

162 3-D TELEJECTOR

"Roarin' rockets!" Bud blurted. The other spectators gasped and exclaimed in awe.

The scene showed a weirdly monotonous landscape of tiny, clustering green hillocks. Tom switched from camera to camera but all four robots relayed the same sort of terrain.

"No buildings-no sign of living creatures!" Bud muttered. "Isn't there anything up there but those green bumps?"

Working the robot controls, Tom swiveled one Video Viking's head so its camera eyes could observe the other robots gliding gently down toward the surface of the Orb.

"Are you going to land them?" Palfrey asked.

Tom nodded. Manipulating the controls, he brought the robots in for a smooth landing braked by VTOL compressed gas jets. The Orb's low gravity made this maneuver gentle and easy.

To their amazement, the earth observers noticed that the Orb's surface was spongy rather than hard. It seemed to yield slightly at every step taken by the robots as they stalked along the winding, mazelike troughs or valleys between the hillocks.

Presently the entire green landscape began to heave sluggishly, like a

billowing ocean. The robots teetered on their tubular legs and might have gone down had it not been for their gyro-balancing mechanisms. The hillocks themselves appeared to seethe and undulate.

"Incredible!" Mr. Swift murmured. "It's almost as if those hillocks were alive!"

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"Dad! That may be the answer!" Tom exclaimed.

"You mean those formations are alive?"

"Yes! Don't you see?" Tom turned excitedly to all the scientists. "We've been thinking of the Orb as an inanimate object-like an asteroid-but peopled by some form of life."

"And now you're saying-?" Ahlgren queried.

"That the Green Orb itself is a living thing-or rather a colony of living things!" Tom replied. "Those hillocks may be unit cells of the whole organism-like coral polyps that have combined to form a coral reef-only this one is in space!"

"An even better comparison would be the Portuguese man-of-war," Mr. Swift said thoughtfully. "It looks and acts like a single creature, but is actually a colony of hundreds of tiny creatures banded together into one organism."

"But we've been assuming the Orb life has a high order of intelligence," Dr. Palfrey objected. "In fact, it must have if it was able to convey highly technical information."

"The Orb may have a centralized intelligence," Tom argued. "Take the comparison Dad made. The Portuguese man-of-war is made up of hundreds of small polyps. Some of those polyps form tentacles to sting and capture its prey. Some gobble up the prey. Others carry on the work of reproduction. The Orb, too, may have specialized thinking and communication cells-maybe inside its green outer body!"

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"Tom! The Vikings are in danger!" Bud cried out.

The sinuous waving of the green hills or "polyps" had become more violent. Some were pulling apart from each other to form gaping maws which threatened to suck down the moving robots. Tom hastily worked the radio controls and the Video Vikings jetted safely upward.

The scientists watched as Tom guided his robots on a complete orbit of the weird space voyager. Everywhere, their camera eyes showed the same green landscape. At last Tom directed them back to the rocket ship and the three-dimensional scene faded from view.

Bernt Ahlgren called an immediate conference to discuss their next move.

"I'll go to the Green Orb by spaceship," Tom declared. "This probe has revealed what the Orb is like, but only a manned landing can give us all the answers to this space mystery."

The scientists' faces showed concern.

"Whatever the Orb's controlling intelligence may be, we know it's hostile,

Tom," Dr. Palfrey pointed out. "To you in particular!"

"All the more reason to force a showdown," Tom argued. "The Orb is disrupting communications and may threaten our national security. We don't know where it came from or why. It may endanger all earth life. Should we sit around and wait for that to happen?"

Tom let his words sink in, then went on, "If we

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make a manned landing, perhaps we can arrive at some understanding with whatever kind of intelligence exists on the Orb."

"You expect to be able to communicate with the Orb life?" Ahlgren asked.

"Why not, if it can monitor our brain-wave output? It communicated with Group Q."

"But to go with no means of defense or protection . . ." Ahlgren shook his head worriedly.

"Remember, the Orb fears us, too," Tom replied. "I have a hunch it can't tolerate outside electromagnetic activity. That may give us the only weapon we'll need."

"What about the Orb's own emanations, son?" put in Mr. Swift. "On your scouting trip, they made you and your crew unconscious."

"I think I have an answer to that, Dad," Tom said. He diagrammed a small high-frequency oscillating device modulated by his own brain waves. "This will generate a field to neutralize any emanations from the Orb. I'll design a special headgear for it that won't interfere with our space helmets."

Next morning a new round of frantic activity began, preparing for the expedition to the Green Orb. Tom was swamped with volunteers for his crew. He chose Bud, Hank, Chow, and a dozen others. Pedro Uzcudun volunteered, too, and although the Basque was untried as a spaceman, Tom decided to put him through the test chamber. If Pedro passed, he would be taken along on the venture.

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The young inventor also gave orders for the two space probers at Enterprises and the outpost to be kept trained on the Orb. But neither was to be turned on until Tom gave the signal.

Thursday morning a gray, misty dawn found Mr. Swift, Dr. Grimsey, Bernt Ahlgren and the other government scientists gathered on Fearing Island to watch the astronauts take off.

Tom was the last to climb aboard. "Don't worry, Dad," he said. "And please make Mother and Sandy understand this job has to be done."

"I'll try, son. Good luck to all of you."

Minutes later, Dilling radioed an all-clear! The Challenger soared into the blue.

There was little banter aboard the spaceship during its long outward thrust

into the twinkling darkness of the interplanetary void. The crew's faces reflected the tension all were feeling. At last the Green Orb became visible through the pilots' view panes. Its swirling, yellowish-green atmosphere began to glow with lurid brilliance as the Challenger drew nearer.

"Brand my goose grease, I don't like the looks o' that!" Chow muttered uneasily.

Tom said nothing as he prepared for the maneuver that would carry them through the Orb's atmosphere to a landing.

"One good thing, our helmet neutralizers seem to be working," Bud remarked.

Suddenly a crewman's voice spoke over the intercom. "Radiation-control room reporting.

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Our monitors have conked out! We're getting no reading for gamma or cosmic radiation."

"Trouble in the power room, too, skipper!" another voice broke in anxiously.

"Our solar-conversion units have stopped charging!"

Tom's jaw clenched. What was happening? "Stand by," he ordered. Then he called the ship's radioman. "How's our radio contact with Fearing, Mike? Still in touch?"

The answer sent a pang of alarm through the young scientist. "We were, up till a minute ago, skipper. Then the transmission faded out. All I can get now is static."

"Hey! We're not braking speed!" Bud cut in.

Tom's eyes widened fearfully as he conned the control dials. "No repelatron thrust!" he murmured. "Our autopilot may be haywire!"

White-faced, Tom flipped to manual control and gunned the main steering repelatron. The force of the repulsion beam should have slowed the ship-but there was no response!

"Something's wrong with our repelatron generator!" Tom gasped. "We're out of control!"

Speed unchecked, the Challenger hurtled toward a crash landing on the Green Orb I

CHAPTER XX

THE SECRET OF THE ORB

HANK Sterling dashed below to the repelatron room. Soon he reported over the intercom, "Plenty of reserve power, skipper, and the repelatron generator output appears normal. The trouble must be outside the ship!"

Bud threw a frightened glance at the young pilot. "Is the Orb neutralizing our beam?"

Tom nodded grimly. "They're probably blotting it with out-of-phase radiation.

Or they may have us hemmed in with some kind of focused field." The latter, he added, might explain the failure of their radiation monitors and solar-conversion units.

Tom queried the radioman again over the intercom. "Can you raise Fearing yet?"

"No luck so far, skipper," came the reply.

"Then try the Private Ear radio!"

This special two-way set made use of the same anti-inverse-square-wave effect Tom had devel-

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oped for his space prober. Sender and receiver "locked on" at the slightest contact. Thereafter, transmission took place in a narrow beam which it was almost impossible to intercept.

The astronauts in the flight compartment waited tensely for the radioman's report. A weird greenish glow filled the cabin as the Challenger raced closer to the Orb. Chow and Uzcudun stared in awe at the strange object.

"Reckon you wisht you was back herdin' sheep now, eh, Pete?" the Texan mumbled.

The Basque shrugged. "This is what they call 'the moment of truth' in the bull ring back in Spain. ... I am not sorry I came on this adventure with Tom Swift." Chow grinned in spite of himself and stuck out a calloused hand. "Put 'er there, pardner! You kin eat in my space galley any ole time!"

The radioman broke in. "I have Fearing!"

Tom snatched up the microphone. "George?"

"I read you, skipper," Billing responded.

"This is urgent! Signal Enterprises and the outpost to turn on their prober beams full power. Also, I want all space transmitters-radio, radar, and lasers-beamed at the Orb. Continuous signal or pulses at maximum power, all stations and Spacecraft."

"What's this-a counterattack?" Bud asked.

Tom nodded grimly. "Remember how the Orb reacted to our prober and repelatron beams? Well, we know now it's a colony of living organisms. If THE SECRET OF THE ORB 171

I'm right, they're intensely sensitive to outside electromagnetic signals of any kind. That's why they wanted to stop our TV probe."

In moments, the Orb's greenish glow became more lurid and intense. Its foglike atmosphere writhed and swirled with stormy turbulence.

"We're really shaking 'em up!" Bud gasped.

By now the Challenger was coming frighten-ingly close to the weird space object. Its glowing green atmosphere loomed dead ahead-filling their whole field of view.

Tom tried the main repelatron. There was immediate response as the ship slackened speed!

"Keep your fingers crossed, fellows! We're back in business!" His crewmates' faces brightened at Tom's report. "Pete—"

"Right here, amigo!" the Basque responded.

"Are you receiving any messages?"

"Not a thing. In fact I have a strange feeling-as if I am surrounded by an invisible curtain that shuts off all outside influences."

Tom frowned, then snapped his fingers. "What a blockhead I am! It must be that special headgear, Pete. Take it off for a while."

Uzcudun did so. His face blanched. "The Orb ... it seems to be in pain!" he muttered. "It wishes a truce. If you cease your attack, it will permit you to land without harm."

"Brand my shootin' stars, you've got 'em bulldozed, boss!" Chow exclaimed gleefully.

Tom called Billing and ordered all transmitters
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turned off. Soon the ship was plunging into the thick, swirling green mist.

Long minutes later the mist began to thin. At last the Challenger emerged below the heavy cloud cover.

Tom's pulse quickened as he gazed at the eerie landscape spread out beneath them. The scene was bathed in a weird sea-green twilight.

"No need to use power," Uzcudun murmured. "The Orb will support us with its own output."

Bud flashed Tom a suspicious glance. "Think it's safe to shut off our repelatron beam? If this is a trick, we'll crash!"

The young inventor decided to comply. "I'm sure we can start up again fast enough to avoid a crash if necessary. But we'll have to trust the Orb on this, if we hope to parley."

Tom's trust seemed to be justified as the Challenger floated gently downward and came to a hovering halt above the green hillocks.

"What's our next move, skipper?" asked Hank.

Tom turned to Uzcudun. The shepherd was holding his fingers to his temples with a look of glassy-eyed concentration.

"Leave the ship," Uzcudun said slowly. "You will be directed to the . . . the thing . . . the brain . . . which controls the Green Orb."

Tom felt a twinge of fear. Was the whole procedure a cunning trap by which the Orb hoped to take him alive-perhaps even snuff out his life once it had him in its power?

Nevertheless, despite a growled protest by

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Chow, Tom decided to go ahead. The loyal cook immediately volunteered to

accompany him, as did Bud, Hank Sterling, and Pete Uzcudun. Tom chose Bud and also Uzcudun since he might need the Basque to communicate with the Orb brain. As an afterthought, Tom removed his own neutralizing headgear and so did Bud.

"What'll we do outside-walk?" Bud inquired.

The young inventor frowned uncertainly. "No-we'll take a repelatron donkey." The Challenger carried several of these "flying carpets." Tom had invented them for lunar transport work in the race to the moon. They were small, repelatron-powered sleds.

The trio donned space suits and went out through the airlock to the landing deck. Tom saw an undulating motion in the hillocks below. The living polyps glistened with a slimy sheen.

"I'm glad we don't have to hike through that zoo on foot!" Tom muttered over his suit radio.

"You and I both, pal," Bud agreed with a shudder of distaste. "Green flesh-ugh!"

They stepped aboard the donkey and took off.

"No power is needed," Uzcudun reported again.

The tiny craft was wafted over the surface of the Orb. Presently Tom's eyes widened. He, too, was beginning to "receive"! In a way Tom would have found hard to explain, he knew they were being drawn to the Orb's central intelligence. Then he noticed the astonished look on Bud's

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face. "You're picking up the message, too?"

"I sure am-just call me Marconi!" Bud added uneasily. "Hope we're not heading into a trap!"

After several minutes of flight, their platform halted. All three astronauts could sense what was about to happen. Their hearts thudded as they stared down at the eerie terrain below.

Slowly, several green polyps began to draw apart, revealing a cavern or aperture. A chill ran up Tom's spine and bristled the nape of his neck as he saw what was inside-a shapeless fiery ball, a cluster of glowing energy!

"Like the visitor from Planet X!" Tom thought in amazement. "But this is much larger!"

"Greetings, earthmen!" was the message that flashed into their minds.

Where had the strange space voyager come from? Tom wondered. At once he received the answer.

"I-or we, as you prefer-have come from far beyond your solar system."

Tom gasped as he realized that he was in two-way communication with the Orb brain!

Sensing his reaction, the creature went on, "Do not be alarmed! I am receiving the electrical output from the brains of all three of you. In return, I am

transmitting information coded in the form of human brain waves. This induces corresponding electrical currents in your brains which enable you to read me." Over the vast distances of interplanetary space,

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the Orb brain explained, this communication process was far less efficient and only abnormally sensitive human beings, such as Uzcudun or Mulver, could receive its output.

"Why did you plot against me with Group Q and try to prevent my television probe?" Tom asked.

"As you have guessed, our colony or organism is intensely sensitive to electromagnetic signals from outside sources. It disrupts the inner flow of electrical current by which our life processes are carried on. Your activities at Swift Enterprises posed a special threat."

"And your electromagnetic output has disrupted earth's radio communications," Tom reported.

"It was a mistake to invade your solar system," the Orb brain conceded. "It is clear now that our organism cannot exist side by side with you earth-lings without much interference."

"Why did you come here?" Bud asked.

"To soak up energy from your sun," was the reply. "We need an immense supply of raw energy to fuel our life processes. That is why we move about the galaxy from star to star. But do not fear-your sun is one small star among countless millions in our galaxy, and we can easily move on to another. However, you must allow us time to move out of your solar system and promise to launch no more electromagnetic attacks against us while we do so."

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"We make that promise," Tom communicated. "But we must also know the antidote to the disease chemical with which our friends were infected."

The formula was transmitted to Tom's brain. The Orb intelligence also promised to try to keep in touch with the Swifts and send information about other parts of the Milky Way galaxy to earth's astronomers and astrophysicists.

Gradually the green polyps drew together, closing over the Orb brain.

Jubilant but shaken by their weird experience, the three astronauts returned to the Challenger. Soon the mighty spaceship was speeding back to earth.

A tremendous welcome awaited the heroes on Fearing Island. Tom Swift Jr. received the official thanks of the United States Government in a televised ceremony attended by the President's scientific adviser. Mr. and Mrs. Swift, Sandy, Phyl, and the Newtons looked on proudly.

Tom, anxious about the condition of Felix Wong and Arv Hanson, flew back with Bud to Enterprises and rushed to the infirmary. Doc Simpson reported that both patients were out of danger.

"I injected the antidote as soon as you radioed the formula. It seemed to take

effect right away. They came out of their coma-the fever has broken-and they're resting quietly."

"That's the best news yet!" Tom exclaimed.

Harlan Ames was waiting at the security office with a report on the leader of Group Q. "We can stop worrying about the Black Cobra," he told Tom. "The FBI traced him to a coastal port. Though he got away in a midget submarine, the Navy later reported it had sunk-so he's now in Davy Jones's locker."

Before heading home, Tom went to the observatory for a last look at the Green Orb through the optical telescope. The strange space voyager was already dwindling from view. As Tom watched it disappear, he did not know that his Polar-Ray Dynosphere would soon involve him in another thrilling adventure in outer space.

"Think we'll ever hear from the Orb again?" Bud asked his chum.

Tom smiled and shrugged. "Why wait for a call from the Orb, Bud? Maybe one of these days we'll pay it a visit in another corner of the galaxy!"

THE END

TOM SWIFT AND HIS 3-D TELEJECTOR

BY VICTOR APPLETON II

No. 24 in the Tom Swift Jr. series.